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Assessment of Utilization of Health Information Resources by Diabetic Patients in Benue State Nigeria

Tondo Richard Iorver Mr

Benue State School of Midwifery Makurdi Nigeria, tondorichard@gmail.com

1.0 INTRODUCTION

1.1 Background to the Study

Health is an inevitable mechanism that determines effective functioning of human beings in the society. Societal well-being and development depend largely on how citizens acquire good health. Good health would be different from each person and how one achieves wellness may also be different from how someone else does. "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (Jones, 2013). World Health Organization (WHO, 2017) further clarified that health is: A resource for everyday life, not the objective of living. WHO further asserted that, health is a positive concept emphasizing social and personal resources, as well as physical capacities. This means that, health is a resource to support an individual's function in wider society. More recently, researchers have defined health as the ability of a body to adapt to new threats and infirmities. They base this on the idea that, modern science has dramatically increased human awareness of diseases and how they work in the last few decades. There are two major types of health.

Mental and physical health are the two main types of health. Mental health refers to a person’s emotional and psychological wellbeing. Mental health is not only the absence of depression, anxiety or another disorder. It also depends on the ability to enjoy life, bounce back after difficult experiences, achieve balance, adapt to adversity, feel safe and secure as well as achieve full potential (Jones, 2013). Mental health is as important as physical health to a full, active life style. Physical and mental health are linked. The author further explained that, a person who experiences physical health, bodily functions are working at peak performance, due to not only lack of disease, but also to regular exercise, balanced nutrition and adequate rest.

Physical health help reduce the risk of health issues. Disease can affect a person's ability to complete his/her regular tasks, this may lead to depression and stress, for example, due to money problem or non-utilization of health information. It may not be possible to avoid disease completely, but developing resilience and preparation of the body and mind to deal with health problems as they arise, is a step that needs to be taken by all.

Disease cause disequilibrium to the individual's well-being. The provision of health information on patient's health problems and self-care at the right time may help to encourage individuals to manage diseases and promote optimum health. According to Anyaoku and Nwosu (2017) there are two key types of health information, both of which people need. First is general health information available to all, this type of health information provides information about lifestyle options, care providers, diagnoses, conditions, self-care and treatment options (including risks), and standards of care. This type of health information helps individuals to control the chances of contacting diseases. Second is personalized health information, this type of health information provides information specifically on an individual's own condition, care options and possible outcomes. This helps an individual to control and manage his condition after contact with a certain disease.

More also, diseases such as hypertension, diabetes, cancer, HIV and AIDS to mention but a few are disease conditions with many associated stress factors such as physical discomfort, pain, impairment, emotional and psychological distress (Park, 2007). However, Brain and Spine Foundation (2007) noted that, when patients with diseases have good access to health information, they are better equipped to: improve their health and quality of life, increase their ability to take control of their health, be aware of treatment options and act as equal partners in their care. Also, Angya (2012) revealed that, access to health information is one sure way of

coping with illness. The importance of health information for patients' good self-care has led to the premise that access to health information is a fundamental right of all patients (World Health Organization in Anyaoku & Nwosu, 2017). Information is input which reduces the level of uncertainty in any decision process, it is crucial factor for healthy life. Access to health information is critical to many factors of health care design and delivery.

Furthermore, information is knowledge about a particular subject, issue, event or process. Health information is published and unpublished knowledge on all aspect of health and health care. Individual seek health information through health information resources. Health information resources are the conveyors of health information. Health information resources are all the media for storing health information. Health information resources are divided into book and non-book materials. The book materials include medical journals, medical newspapers, medical newsletters, medical magazines, medical brochure, pamphlets, treatment fact sheets and many more. Non-book materials include cassettes, medical tapes videos, medical CD-ROM technology, medical e-books, and medical e-journals to mention but a few. These health information resources if properly utilize would help people living with chronic diseases such as cancer, diabetes, HIV/AIDS and alike to effectively manage their condition and extend their life expectancy.

Diabetes is the name used to describe a metabolic condition of having higher than normal blood sugar levels. Diabetes is a complex, chronic condition that requires both high quality clinical care and effective self-management to minimize its dire health and economic consequences (Parker and Kreps, 2015). Diabetes is a serious complex condition which can affect the entire body. It requires daily self-care and if complications develop, diabetes can have a significant impact on quality of life and can reduce life expectancy. While there is currently no

cure for diabetes, a diabetic patient can live an enjoyable life by learning about the condition and effectively managing it through proper utilization of health information resources. Diabetic patients are persons receiving or registered to receive medical treatment related to diabetes. These are people that has diabetes and in need of treatment by a physician. Over the course of a lifetime, people will need a variety of skills and knowledge to enable them to control their condition, sometimes on a day-to-day basis, and modify their approach when circumstances change. The success of diabetes care relies mainly on patients' daily self-care activities and providers' continuous support. McDaniel, Babcock-Ellis and Hernandez (2011) noted that, diabetes is a disease in which information and knowledge from the patients' perspective has an important role to its management and as a result, diabetes self-management education which is derived from proper utilization of health information and on-going support are significant contributors to metabolic and psychological outcomes. Kalra and Baruah, (2010) stated that, the overall objectives of health information resources utilization are to support informed decision-making, self-care behaviors, problem-solving and active collaboration with the health care team to improve clinical outcomes, health status, and quality of life. Centers for Disease Control and Prevention, (2008) affirmed that, utilization of heath information enables diabetic patients to self-manage their diabetes, helps prevent unnecessary health care utilization and hospitalizations.

Utilization of health information resources is the act of exploiting health information resources to satisfy health needs. Anyaoku and Nwosu (2017) defined utilization of health information resources as the patients' ability to identify and obtain relevant, accurate and suitable health information to satisfy health information needs. For health information resources to be effectively utilized to some extent by diabetic patients, they have to be accessible. Lack of access to health information resources is a problem because this may

create a vacuum in patient's understanding of the disease and ultimately affect the perception of their capability to manage the disease (Anyaoku and Nwosu, 2017). The authors also revealed the sources of accessing health information to include health professionals, libraries, television and radio broadcast, internet, churches, family, friends and relatives. The extent of accessing and utilization of health information resources is not yet known in the study area and this call for assessment of the utilization of health information resources by diabetic patients in Benue state.

The term "assessment" according to online Cambridge dictionary is the act of examining something in order to judge its quality, success or needs. Assessment could also mean the act of estimating or judging the nature or value of something. In the context of this study, assessment means examining or assessing the utilization of health information resources by diabetic patients and making judgement. This includes making judgement about the diabetic patient's knowledge of the types of health information resources, sources of accessing such health information, ability to utilize, extent of utilization and challenges of utilizing health information.

Nevertheless, People with diabetes have multiple information needs, including information about their disease and the various treatment options; social support; support with making decisions; and help with achieving behaviour change, for example, changes in diet or exercise. Utilization of health information may help diabetic patients in Benue State to know the origin of the disease, causes, associated symptoms, emergency symptoms, prognosis, complications, and things that might exacerbate the condition. Pullen, Jones and Timm (2011) emphasized that, diabetic patients cannot express informed preferences unless they are given sufficient and appropriate information, including detailed explanations about their condition.

This assertion seems to be correct in the sight of the researcher as a lot of persons diagnose with diabetes belief that it is a spiritual attack and may refused to take medication because of lack of sufficient and appropriate health information at their disposal which eventually lead to their untimely death. Diabetic patients need to utilize health information in order to understand the disease process and clear any misconceptions that might deter them from taking appropriate treatment to forestall undue development of complications. Hence the need to assess the utilization of health information resources by diabetic patients in Benue state.

Moreover, diabetic patients need to cope with the various facets of diabetes such as symptoms, emotional trauma of anxiety, depression and fear associated with living with the disease. Kalra and Baruah (2010) noted that, effective management of diabetes calls for development of coping skills. In the context of diabetes, coping means dealing with the disease successfully, and managing it calmly. One has to learn how to handle life with this disease, or cope with it. Information is noted as one element that is important in helping people cope positively with diabetes. Pullen, Jones and Timm (2011) opined that, an important aspect of the ability to cope with a potentially serious disease such as diabetes is the desire for information about its various facets.

Disease like diabetes, medication is the main instrument of management. Typically, this involves long-term use. Health information resources is noted as being important in the use of medication as well as for adherence to the regime. For instance, Nicolson, Knapp, Raynor, and Spoor (2009) reported that, medicines are the most common intervention in most health services, but with all treatments, those taking medicines need sufficient information to enable them to take and use the medicines effectively, to understand the potential harms and benefits, and to allow them to make an informed decision about taking them. Information resources,

such as medicines leaflet or provided via the Internet, is an intervention that may meet these purposes. So, adequate provision of these health information resources would enable the diabetic patients in Benue state to fully utilize them for proper management of diabetes.

Good to note here is that, there is vast increase in health information demand all over the world due to increase in the case of diseases such as diabetes, cancers, chronic respiratory diseases and cardiovascular diseases. Access to a vast amount of health information sources other than health care providers, has necessitated an in-depth understanding of health information resources utilization of patients (Allen, 2013, Alavinia, Ghotbi, Mahdari, Kermanchi, Nasli, and Yarahmadi, 2012). Unfortunately, Freimuth, Stein and Kean, (2016) reported that, in spite of availability of a variety of health information resources, many people end of losing their life every day due to lack of access and utilization of health information resources regarding diabetes. Utilization of health information resources will therefore help reduce the complications and disabilities caused by diabetes. The complications and disabilities caused by diabetes place a great burden on families, societies and governments (Abazari, Vanaki, Mohammad and Amini, 2012). In recent times, diabetes is one of the most common diseases, that has a high priority in prevention and treatment programmes as such proper utilization of health information related to diabetes. Thus, assessing the utilization of health information resources by diabetic patients is a prime factor to health information providers. The provision and utilization of timely, adequate, and appropriate health information resources in the right format could help reduce the complications and disabilities caused by the diabetes.

However, since the earliest days of diabetes, information has been understood as a crucial resource in effort to manage the complications that accompany the diabetes and prolong the

lives of people living with diabetes. Information scientists have provided analysis of the distinctive qualities of the health information associated with the diabetes (Angya, 2012). The author further enumerated five sectors that are responsible for generation and dissemination of health information such as service organizations which include: World Health Organization (WHO), library and alike, health professionals, consumers, Government and the media. Huber in Angya (2012), used media to describe a non- traditional scientific communication model of diabetic patients in which those typically considered information consumers (diabetic patients) are not considered because information producers (health professionals) act as information consumers, this makes access to and utilization of these health information resources difficult. Thus, assessing the utilization of health information resources by diabetic patients is imperative.

Access and utilization to health information resources such as treatment fact sheets, pharmaceutical company brochures, medical newsletters and other gray literature are difficult to access given its limited dissemination and integration into the usual streams of health information systems. Angya (2012) advanced that, as a result, potentially powerful health information is not always available to the hands of diabetic patients and organizations that could benefit from it. Assessing the utilization of health information resources will be important in an environment where their predominant food is purely carbohydrate which is the major cause of diabetes. For instance, in Benue state which is known as the food basket of the nation, and bless with a lot of food stuffs like yam, cassava, potatoes and many others, one may decide to eat boiled yam in the morning, pounded yam in the afternoon and fried yam in the evening without knowing the health implications of the diet. But utilization of health information resources will expose an individual to the health implications of diet. Naidoo

(2012) stated that, health information resources helps an individual to know the health implications of diet if adequately utilized.

Utilizing health information resources is an important part of coping with diseases. It includes communicative and cognitive activities like seeking, avoiding, providing and interpreting information (Naidoo, 2012). Utilization of health information resources is complex in that people's information needs and behaviours vary over the course of their illnesses and along with the availability, format, quality and sources of information, hence the need to assess health information resources utilization. In a similar vein, Freimuth, Stein and Kean (2016) posited that, the necessity of searching and utilizing health information is affected by patient's needs, the amount and type of information available, mental background and estimated cost. A person who believes has adequate knowledge about a disease naturally would not seek new information. Weaver (2010) identified factors that could prevent one from actively utilizing health information resources as financial problems, time constraints, hopelessness and confusion, poor physical and psychological condition, illiteracy among others.

A diabetic patient can actively or passively utilize health information based on his or her situation to reach medical care decision. Among the advantages of active information utilization as revealed by Firoozeh, Anasik and Akbar (2015) is the reduction of anxiety, uncertainty and better control over the disease. In some situations, the necessary health information is passively absorbed from the surrounding environment, the diabetic patient might believe that there is no need to actively seek and utilize health information. Such a patient may not incline to ask questions from the doctor because he/she believes that the doctor will provide all necessary information. Utilization of health information resources by

diabetic patients may help the diabetic patients manage their disease and extend their life expectancy.

Diabetic patients seek health information resources for reasons ranging from curiosity of self-diagnosis to treatment. It is imperative to mention that, they be adequately empowered with health information resources for proper utilization to make the right decision pertaining to their health (Naidoo, 2012). The role of health information resources to diabetic patients cannot be ignored, information is vital to relieve pains and decision fort, both physical and mental. The author further emphasized that, utilization of health information resources helps extend and improve the quality of reducing complications associated with disease if properly utilized. The non-utilization of health information resources can lead to interrupted treatment and self-medication which can worsen the situation.

It is imperative to mention that, every diabetic patient need health information resources to survive and this is not limited to Benue state alone. As a matter of fact, health information is vital in the daily life of every diabetic patient for heathy living. It is a medium of social transformation and communication as well as an avenue for diabetic patients to get involved in government policies and programmes concerning their health issues. To satisfy health information needs, diabetic patients need access to and utilization of relevant, timely and accurate health information resources in appropriate format. Therefore, good access to and utilization of health information resources becomes a must for diabetic patients. It is against this background that; the researcher conducted an assessment of utilization of health information resources by diabetic patients in Benue State.

1.2 Statement of the Problem

Health information resources plays an essential role in the health status of people living with diabetes as it helps them manage the complications that accompany the disease and prolong their life. Health information resources if properly utilized can reduce stress and increase confidence as well as help in the psychological adjustment of the patients thereby, increasing the self-management of the disease. Utilization of health information resources is crucial as it can control the spread of diseases and reduce the psychological pressure resulting from those diseases. These diseases include diabetes which is the focus of this study.

Unfortunately, literature and personal observation had revealed that, health information resources are grossly under-utilized by diabetic patients in Benue state despite the numerous potentials they hold for effective diabetes control, treatment and self-management. Non-utilization of health information resources by diabetic patients in Benue state may lead them to a lot of complications associated with the disease such as blindness, kidney failure, heart failure and stroke, claiming the lives of people living with diabetes on a daily basis. This places an enormous emotional, physical and financial burden on the entire family of the diabetic patients. This report and observation may lead one to begin to question the coverage, format and quality of health information resources in circulation as well as what the future holds for the diabetic patients in Benue state considering the global trend concerning information provision, access and utilization that would address their health needs. The need to achieve greater utilization of health information resources by diabetic patients in Benue state makes it imperative to assess their utilization of health information resources. So many researches might have been carried out on how to reduce the incidence of the pandemic and how to manage it but there is no much attention on utilization of health information resources, this calls for the present study. The study

therefore, assessed the utilization of health information resources by diabetic patients in Benue state.

1.3 Objectives of the Study

The main objective of the study was to investigate the assessment of the utilization of health information resources by diabetic patients in Benue state. The specific objectives of the study were to:

1. investigate the types of health information resources, required by diabetic patients in Benue state.
2. find out the sources of accessing health information by diabetic patients in Benue state.
3. find the health information resources utilized by diabetic patients in Benue state.
4. investigate the extent of utilization of health information resources by diabetic patients in Benue state.
5. determine the challenges of utilization of health information resources by diabetic patients in Benue state.

1.4 Research Questions

The following research questions guided the study.

1. What are the types of health information resources required by diabetic patients in Benue state?
2. What are the sources of accessing health information by diabetic patients in Benue state?
3. What are the health information resources utilized by diabetic patients in Benue state?

4. What is the extent of utilization of health information resources by diabetic patients in Benue state?
5. What are the challenges of utilization of health information resources by diabetic patients in Benue state?

1.5 Significance of the Study

This study will be of benefit to Government, Health policy makers, Information providers, Health professionals, diabetic patients and Students of library and information science.

To the government, the revealed resources and sources of health information resources will be of benefit to the government at all levels to improve the scope and efficiency of its health information systems and services where necessary. This will encourage maximum utilization as the government may increase funding for appropriate education, intervention, treatment services and research.

To policy makers, the findings may also serve as database to policy makers for policy making in the area of health information regarding diabetic patients. With this, the policy makers may make policies regarding the control, treatment and management of diabetes.

To health information providers, the revealed problems encountered by diabetic patients in utilizing health information resources will provide valuable information to health information providers which will help them in effective transfer of health information to the diabetic patients, remove the obstacles in information utilization and creating efficient health information services to diabetic patients. This will help the diabetic patients to effectively manage their disease. This finding will also enable health information providers embark on aggressive user education programme for diabetic patients on the uses of health information

resources. With this, diabetic patients will be placed on a better score of utilizing health information resources.

To health professionals, the study will provide them with valuable information concerning the problems of diabetic patient's health information utilization to enable them make quick decisions on what to do to improve the health condition of the patients. The revealed health information resources and sources will also help the health professionals know the sources and resources used mostly by the diabetic patients. This will make the health professionals to pass the necessary health information needed by diabetic patients across the sources and in the appropriate formats.

To diabetic patients, the study will reveal the benefits derived from the utilization of health information resources, which will help the psychological adjustment of the diabetic patients and increasing the self-management of the disease. This revelation will enable the diabetic patients consolidate efforts for effective utilization of health information resources so as to cope with their disease.

Finally, the study will be a useful addition on the existing knowledge in the field of library and information science concerning diabetic patient's health information utilization in Nigeria and beyond. This study will equally serve as a reference point or bedrock to students of library information science and medical sciences researching on the topic under study. The beneficiaries will get access to the finding of this study through libraries and information centers, workshops, seminars and internet.

1.6 Scope of the Study

The study was carried out in Benue State. The content scope of this study centered on the assessment of utilization of health information resources by diabetic patients. The study

assessed the types of health information resources require by diabetic patients, available sources of accessing health information resources, sources used in accessing health information, extent of utilization of sources of health information and challenges of utilization of health information resources by diabetic patients. The study covered all registered diabetic patients in Federal Medical Center (FMC), Makurdi, Benue state University Teaching Hospital (BSUTH), General Hospitals in Kastina-Ala and General Hospital Otukpo. These hospitals were purposefully chosen to represent the three senatorial zones of Benue state.

1.7 Operational Definition of Terms

Concepts relevant to the study are defined as they are used in this study.

- **Diabetes:** is the name used to describe a metabolic condition of having higher than normal blood sugar levels
- **Patient:** is a person receiving or registered to receive medical treatment. It is a recipient of health care services. This is someone that is ill and in need of treatment by a physician, practice registered nurse or health care.
- **Health Information Resources:** are all the media for storing health information. They are book materials such as medical journals, medical newspapers, medical newsletters, medical magazines, medical brochure, pamphlets, treatment fact sheets and many more. Non-book materials include cassettes, tapes videos, CD-ROM technology, e-books, and e-journals to mention but a few.
- **Utilization:** making effective use of health information resources be it print or non-print format in a bid to obtain health information.
- **Assessment:** is the act of examining something in order to judge its quality, success or needs. It could also mean the act of assessing or judging the nature or value of something.

2.0 LITERATURE REVIEW

In this chapter, literature relevant to the study research topic is organized and reviewed under the following headings.

2.1 Theoretical Framework

2.1.1 Information Utilization Model by Lenz 1984

Information utilization model is a model of health information utilization propounded by E.R. Lenz in 1984. Lenz defined health information utilization as the patients' ability to identify and obtain relevant, accurate and suitable information to satisfy health information needs. In this

model, information utilization is a part of decision-making process and consists of six stages namely information utilization stimulus, setting information goals, decision making regarding whether to actively utilize information, search behaviour, information acquisition and codification and decision making based on the adequacy of acquired information.

Information utilization stimulus can be derived from within the person (pervious experiences regarding specific symptoms or injuries) or comes from the surrounding environment (death of a friend, negative comments of acquaintances about health habits or TV programs). This stimulus leads to the identification of the discrepancy between available information and information needed by the patient and therefore leads to the start of information utilization process. Some of these stimuli are: Identifying a problem that needs to be prevented or solved, a decision that has to be made, a goal that needs to be achieved or placement in and unfamiliar or threatening situation.

Setting information goals comes after information utilization stimulus, in this stage for instance, when a person is in the decision-making situation, available information must be used in order to determine the goals that define the conditions of utilization of information. Information goals lead to concentration and limit unnecessary and side activities. According to the model, based on these goals patient determines the time-frame in which the information needs to be gathered, the information sources used, types of information sought and other similar factors.

Decision making regarding whether to actively utilize information, here Lenz explained that, by identifying the stimuli, with or without explicit goals leads to making a decision about whether it is necessary to actively utilize information or not. This decision is derived from the amount of previous information available, mental background regarding the problem and

anticipated cost - benefit ratio of information utilization. If people believe to have enough information, naturally they will not seek more. Also if situations such as financial difficulties, time constraints, hopelessness, confusion, poor physical and mental health caused by the disease or willful ignorance regarding the information can outweigh anticipated benefit of active information utilization, people will refuse to actively utilize information. Reduction of stress, anxiety and uncertainty and increased control over the disease are among the benefits of active information utilization. Patient might believe active information utilization to be unnecessary because all needed information can be gained passively from the environment. People with these beliefs never ask questions from their doctors because they believe that the doctors will provide them with all the necessary information.

Search behavior, this stage to Lenz comes to pass only if a person decides to utilize information actively. The extent of the search is determined based on the two factors of a number of alternatives investigated and the number of dimensions of each alternative. The extent of the search can differ from in-depth search to superficial information utilization and has a direct relation to the amount of information gathered. However, Lenz states that, one must remember that not every search leads to finding relevant or new information. The search can be carried out in two ways: (1) Impersonal in which the information is gathered from inanimate sources such as publications, reference services or strangers or (2) personal in which the patient gathers the information from people familiar to them. The model stipulates that information utilization process is, usually, a mixture of these two methods, and a personal search is often preferred over impersonalone.

Information acquisition and codification is the fifth state of Lenz’s Information Utilization theory, in this stage, Lenz maintain that, after actively utilizing information, the

information seeker will evaluate the gathered information and determines whether the new information is new and relevant or new and irrelevant. New and relevant information is memorized and might act as a stimulus for encouraging further search behavior.

Decision making based on the adequacy of acquired information is the last stage of Information Utilization theory which states that, as soon as the information seeker gathers the necessary information, the adequacy of this new information is evaluated to determine whether information utilization needs to continue or stop. The criteria for this evaluation are subjective. This evaluation can be carried out based on the results of a comparison between information needed and obtained, cost- benefits analysis of information utilization or based on information goals determined before the start of information utilization process.

Information Utilization model states that, factors such as exhaustion, boredom, hopelessness, urgency for taking a certain action and difficulty of information utilization process can lead to a premature termination of the search, while factors like curiosity and interest can help people continue the search for more information. The final outputs of this search process are cognitive and behavioral changes in the information seeker. The Information Utilization model is of relevance to the present study in that, it stipulates the stages of health information utilization process for an informed decision which is the basis of the present study. With these stages of health information utilization, the diabetic patients would adopt to seek and utilize health information that will help them in the treatment, control and self-management of diabetes. The model also states the sources of accessing health information and some factors that affect utilization of health information by patients which are some of the variables of the present study.

2.2 Conceptual Framework

2.2.1 The Concept of Diabetes

Diabetes mellitus, often simply referred to as diabetes, is a chronic disease associated with abnormally high levels of glucose (sugar) in the blood. It occurs when the pancreas is unable to produce sufficient insulin, or "when the body cannot effectively use the insulin it produces" (Gathoni, 20112). Hyperglycaemia (or high blood sugar) is the result of uncontrolled diabetes and over time can be detrimental to the body's systems, such as the heart, blood vessels, eyes, kidneys, and nerves (International Diabetes Federation, 2013). There are three types of diabetes namely, Type 1 diabetes, Gestational diabetes and Type 2 diabetes.

1. Type 1 diabetes is onset in juveniles or in childhood. It is characterized by deficient insulin production and the patient requires daily administration of insulin. The cause of type 1 diabetes is unknown and it is not preventable with current knowledge (Center for Disease Control and Prevention 2008).
2. Gestational diabetes is onset or first detected during pregnancy. It is often diagnosed "through prenatal screening, rather than reported symptoms" (Center for Disease Control and Prevention 2008).
3. Type 2 diabetes "results from the body's ineffective use of insulin". Ninety percent of people with diabetes worldwide have type 2 diabetes, and it is largely because of excess body weight and the lack of physical activity. While this type of diabetes is typically found in adults (40 years and over), it is increasingly occurring in children (Center for Disease Control and Prevention 2008).

Diabetes, recent statistics show that more than 220 million people worldwide have diabetes. In 2014, an estimated 3.4 million people died from the consequences of the disease and the World Health Organization (WHO) projects that diabetes deaths will double before the year 2030. In Nigeria, the WHO estimates that there are currently just under 900,000 diabetics and predicts that this number will grow to 1.3 million by 2030 (International Diabetes Federation, 2013). Diabetes is a major public health problem in both developed and developing countries (International Diabetes Federation ,2013). While the focus is geared towards the clinical treatment and management of the disease, there is a need for patients to share increased responsibility for managing their health and diabetes. With relevant knowledge, lifestyle changes and information, diabetic patients can improve and manage their condition effectively. Diabetic patients are encouraged to take responsibility for managing their medical condition. Diabetes involves a more significant amount of awareness with regard to diet, exercise, medication administration and the early recognition of plausible complications. Patient knowledge of diabetes and the consequences of the disease are important for the management of the disease. Hence information provision is especially important for the management of diabetes (Nathan, 2014).

People with diabetes are more susceptible to other diseases and often have a worse prognosis from them. Diabetes causes serious complications and can lead to poor quality of life (World Health Organization, 2011). Yet, people with diabetes can reduce the occurrence of these potential complications through lifestyle management with proper utilization of health information resources. There are many secondary prevention (glucose control and blood pressure control) and tertiary prevention (screening for eye, foot and kidney abnormalities) measures available to prevent the onset of diabetes and decrease the severity of diabetes complications

(World Health Organization, 2011). Strategies that would decrease the burden of diabetes are not used regularly, resulting in increased morbidity, complications and expenses (Centers for Disease Control, 2008). People with diabetes who are compliant with their regimen and maintain strict glycemic control have lower rates of complications (World Health Organization, 2011). Training and education to help people self-manage their diabetes helps prevent unnecessary health care utilization and hospitalization (Centers for Disease Control, 2008). People who have increased morbidity and mortality risk, particularly those with a disability or chronic diseases such as diabetes, are more likely to engage intensely with health information resources (Fox & Purcell, 2010).

2.2.2 Types of Health Information Resources Require by Diabetic Patients

Health information resources are all the media for storing health information. Gathoni (2012) defined health information resources as all published and unpublished knowledge on all aspect of health and health care. According to Wilson (2015), health information has been variously described as the “foundation” for better health, as the “glue” holding the health systems together and as the “oil” keeping the health systems running. There is however a broad consensus that a strong health information system (HIS) is an integral part of the health system as a whole, the operational boundaries of which include: all resources, organizations and actors that are involved in the regulation, financing, and provision of actions whose primary intent is to protect, promote or improve health (Naidoo, 2012).

Health information resources are grouped into two namely print and non-print resources. The print resources include book materials such as journals, newspapers, newsletters, magazines, brochures, pamphlets, treatment fact sheets and many more. Non-book materials include

cassettes, tapes videos, CD-ROM technology, e-books, and e-journals as well as MedlinePlus.gov. MedlinePlus is the National Institutes of Health's Web site for patients and their families and friends. Produced by the National Library of Medicine, it brings you information about diseases, conditions, and wellness issues in language you can understand. MedlinePlus offers reliable, up-to-date health information, anytime, anywhere, and for free (http://www.nlm.nih.gov/medlineplus/). One can use MedlinePlus to learn about the latest treatments, look up information on a drug or supplement, find out the meanings of words, or view medical videos or illustrations. One can also get links to the latest medical research on your topic or find out about clinical trials on a disease or condition. Naidoo (2012) identified health information resources to include newsletters, magazines, newspapers, posters, exhibits, visual aids and leaflets. Anyaoku and Nwosu (2017) summited that access to relevant health information resources is essential for helping people to take good decisions to enhance their health and well-being. The authors identified health information resources to include textbooks, journals, newspapers, and magazines, patents and standards, handbooks and manuals, dictionaries, gazetteers, encyclopedias, atlases and maps, calendars and diaries, projects, theses and dissertations, tapes, videos, films, cassettes and magnetic tapes. Other health information resources are microforms and electronic health information resources capable of meeting the health information needs of diabetic patients.

2.2.3 Sources of Accessing Health Information Resources require by Diabetic Patients

Sources of accessing health information are the channel or medium through which diabetic patients get health information. It is imperative to know the kind of health information packages and communication channels that diabetic patients prefer in order to communicate the

desire health information to them effectively. A number of sources exist through which diabetic patients can access health information resources. According to Naidoo (2012), there are several sources used to bring health information to audience, such as functions, churches and town-criers. The author further advanced that, in the traditional African society or settings where most residence are illiterates the mod of health information to such categories of people is through town-criers. On the contrary, Fox and Purcell, (2010), pointed out the sources of health information most accessed by people as personal experience, and friends/relations/neighbours. Other sources identified by Fox and Purcell, (2010) include television and radio. Radio is one of the fastest; most powerful source of accessing health information and many countries has been used in disseminating health information to people. Radio reaches people at all levels that understand the language of transmission. The use of radio as mass communication toll for disseminating health information has long been recognized. Radio has been used as a tool for learning and community address system. Bereh in Angya (2012) supported that, in remote regions without telephone, people use radio to announce meetings, funerals and weddings, diabetic patients learn about new government programmes and plans on radio and hear about events and issues in their communities. Television adds a second dimension to radio broadcasting as major sources of health information to diabetic patients.

Furthermore, sources of health information could be categorized. Firoozeh, Anasik and Akbar (2015) categorized health information sources for diabetic patients into three groups-interpersonal sources, traditional media and new media. Interpersonal sources refer to obtaining information from people such as practitioners, nurses, other health care providers, charity, or support organizations for diabetic patients, family members, friends, co-workers, other diabetic patients, and medical librarians. Traditional media include news, television, radio, newspapers,

medical journals, medical magazines, medical brochures, medical booklets, and medical posters. The new media include satellite TVs, Internet, social networks, and other similar media. Anyaoku and Nwosu (2017) reported that, health professionals constitute a very important source of access to self-management information because they have the knowledge base to provide reliable and trustworthy health information to patients. Reports from developed countries show that although patients generally obtain health information from many sources, many prefer to receive health information from their health care providers (Twyford Consulting, 2008; Fox and Purcell, 2010). Other sources of health information include the Internet. This digital medium is a new and valuable source of access to health information. Available on the Internet are various patient centered websites offering disease-specific information, education and advice to patients at different level of need. Internet services have become increasingly important as a method to improve access to health information and health care, including online renewal of prescription medications and making appointments. Peer organizations consisting of patients with similar conditions are good platforms and sources for sharing of self-care and coping information. Libraries are also sources of quality health information. Libraries can provide access to a range of authoritative materials in the form of books, specialized journals, and monographs on a range of health issues that are potentially useful to patients. Health sciences' or medical librarians can also play an important role in pointing consumers toward authoritative health information online (Medical Library Association, cited by Anyaoku and Nwosu, 2017). All these sources can be harnessed to provide self-management information for patients with diabetes.

2.2.4 Health Information Resources Utilized by Diabetic Patients

Mental health professionals through the first decade of diabetes saw that many people living with diabetes felt compelled to sort through potentially overwhelming amount of health information resources to keep up with and stay current on issues important to their health. More recently, health communication researchers have shown that people living with diabetes use health information resources as the main strategy to cope with and manage the disease. Angya (2012) reported that, individual used health information resources for diverse reasons ranging from curiosity to self-diagnosis and treatment, which its absence can lead to interrupted treatment and self-medication. Nathan (2014) asserted that, health information resources used by patients include medical newspapers and magazines, medical pamphlets and medical brochures as well as internet facilities for locating general and specific health information, making social connections, fostering a sense of community, advocating and escaping from stress of living with the disease. Naidoo (2012) indicated that, more diabetic patients are inclined to search the internet for their information and some may prefer to receive information by word-of-mouth and personal contact, the internet and conventional methods such as brochures may also be useful. Anyaoku and Nwosu (2017) reported that diabetic patients who use the internet for health information seem informed about the disease and report more use of active coping strategies. Diabetic patients may not be able to utilized information resources like in print formats such as newspapers and brochures among others and the internet if they are not educated and computer literate. Such diabetic patients may prefer to receive information by word-of-mouth and personal contact.

Diabetic patients use information resources to acquire health information that may help them manage their disease. Jones (2013) emphasized that, diabetic patients use treatment fact

sheets, pharmaceutical company brochures, medical newsletters and leaflets. However, the author further lamented that, access to the aforementioned health information resources and other gray health literature can be difficult given its limited dissemination and integration into the usual streams of health information system. As a result, these information resources are not easily available to diabetic patients. Other health information resources used by diabetic patients as identified by Fox and Purcell (2010) include medical video tapes, medical dictionaries, medical proceedings, medical journals and medical bill boards. They further reports that, in a more educated, civilized and developed society diabetic patients use online medical resources such as medical e-books and e-journals, medicos as well as Medlineplus and ClinicalTrails.gov which are interactive in nature.

2.2.5 Extent of Utilization of Health Information Resources by Diabetic Patients

Health information utilization is the patients' ability to identify and obtain relevant, accurate and suitable information to satisfy health information needs. Lack of utilization of health information is a problem because this might create a vacuum in patients understanding of their diseases and ultimately affect their perception of their capability to manage these diseases (Anyaoku and Nwosu, 2017). The extent of utilization of health information is dependent on access to health information sources. Jones (2013) posited that, health information access comprises physical availability and personal retrievability. Physical availability is existence of health information resources as well as physical access to the resources. The physical sources of access include print and electronic format such as books, pamphlets, and the Internet. It also includes interpersonal exchange of facts, advice, and instructions between patients and health professionals, or peers. To achieve physical access to the resources, the diabetic has to know that the information exists, where it can be found, and how to navigate the institutional structures

to reach it (Burnett, Jaeger, and Thompson, 2008). The individual may also need help to understand and act on health information resources, especially written information (Colledge, Car, Donnelly, and Majeed, 2008). Personal retrievability is the patient's ability to gain access to health information resources from the available sources. This may depend on factors such as health information literacy level and relevance of the information to the recipient.

The utilization of health information resources depends to a large extent on the diabetic patient's health information literacy. Weiss in Naidoo (2012) defined health information literacy as the "ability to obtain, process, and understand basic health information resource and services needed to make appropriate health decisions and follow instructions for treatment". Health information literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information resources and services needed to make appropriate health decisions (Centers for Disease Control and Prevention 2008). Factors that contribute to a person's health literacy range from the person's general literacy which includes the person's ability to read write and understand written text and numbers or a person's ability to understand the complexity of the information being presented (Naidoo, 2012). Limited health information literacy affects people of all ages, races, income levels and education levels to effectively utilize health information sources. Among diabetic patients, inadequate health information literacy is independently associated with poor glycaemia control and higher rates of retinopathy (a form of non-inflammatory damage to the retina of the eye). Inadequate health information literacy may contribute to the disproportionate burden of diabetes related problems among disadvantaged population (Schillinger cited by Anyaoku and Nwosu, 2017).

The extent of utilization of health information resources by diabetic patients have been revealed by various scholars. Firoozeh, Anasik, & Akbar (2015) found that, health practitioners

and family members had the highest and medical librarians had the lowest number of visits. New media such as satellite TV, Internet, social networks, and other similar media were used less than other information sources; however, among these media Internet has been used more often than satellite TVs. Among traditional media (news, television, radio, newspapers, medical journals, medical magazines, brochures, booklets, and posters), television, radio, and news had the highest and libraries and emergency phone lines had the lowest number of uses.

A sizeable number of patients have access to health information from televisions, medical books, medical newspapers and Internet. These are information resources found in a standard library. Yet quite a very high percentage of these patients do not access health information from the libraries (Anyaoku & Nwosu, 2017). This calls for re-evaluation of roles of medical and public librarians in Nigeria as sources of health information. The medical library as an information resource has potentials to provide access to quality, reliable, and up-to-date health information resources to patients with chronic diseases. Gathoni (2012) noted that, in regions that lack adequate information systems, librarians can play a role facilitating access and use by information seekers, because they are: aware of the needs of users, familiar with new information and communication technologies to meet local needs, and have access to some current sources of evidence-based information. Medical librarians in many countries have expanded their role by developing diverse initiatives to provide information to patients. For instance, The United States National Library of Medicine maintains some important consumer health information websites such as MedlinePlus, and ClinicalTrials.gov. These websites provide reliable, up-to-date and accessible information for the consumer as well as health care professionals (Pullen, Jones and Timm, 2011)

While the internet is a major health information resources and libraries in developed countries can harness it to provide health information to the people. It is not so in Nigeria where many do not have access to the Internet and when available, the services are costly and epileptic. Quality of health information resources on the internet is also of concern. There is no control measure for information posted on the Internet. Some may contain misinformation which may prove dangerous for consumers. Patients may therefore need help in identifying quality and safe information. This issues accentuates the need for libraries to be involved in making information available to people. Low use of libraries as recorded in Nigeria as found in literature may mean that people may not be aware of information services libraries can provide. There are established medical and public libraries in Nigeria. Since diabetic patients considered access to information as being important and very important to the management of their diseases, librarians in these libraries should develop vibrant consumer health information resource collections and take a more proactive role in creating awareness of these collections and services in the libraries. Outreach is the key to creating this awareness for making health information accessible by libraries. Libraries are accomplishing outreach programmes by working with schools, churches, senior citizen centers, and other community-based programmes (Naidoo, 2012). Outreaches will help people know that information exist, can be found in libraries and can be accessed freely.

Outreach to patients in a setting like hospitals may be in the form of participation in peer group meetings which is highly organized for illnesses like diabetes. Librarians can seek platform to introduce the importance of seeking information in disease management, the library collections and its advantage in providing quality information. Since some diabetic patients access health information online, librarians can also create awareness to very credible health information websites. The librarians can also work in partnership with health professionals to

strategically place easy to read pamphlets and leaflets in the clinics with reference to more information being available in the libraries. Also they can arrange to work in partnership with health professional and support the presentations in these meetings through the use of medical pamphlets, medical posters, medical leaflets medical audiovisual presentations that are tailored to health literacy level, and education of the patients on a variety of health topics. Parker and Kreps (2005) suggested the use of non-written materials to convey important information to patients with limited health literacy. Even patients who read well often prefer non-written materials, including straight forward picture books, videotapes, audiotapes, or multimedia presentations. Information materials should be provided in local and English languages and in non-technical terms. All these efforts may help people with diabetes to consciously seek and obtain health information that may empower them to take good decisions on their health.

2.2.6 Challenges of Utilization of Health Information Resources by Diabetic Patients

There are some limiting factors and apparent constraints to health information utilization by diabetic patients. In a study carried out by Erica on barriers to health information utilization as cited by Angya (2012), major barriers were lack of information infrastructure and workforce capability as well as high cost of accessing up-to-date, timely and relevant health information. Hogan in Naidoo (2012) identified lack of information resources, difficulties in understanding the available health information, lack of trust and lack of applicability of the accessed information as barriers to using health information resources. In a similar vein, Angya (2012) identified shortage of qualified personnel, inexplicit nature of health information materials, inadequate funds, distance to information sources, absence of diabetes data/information network and ineffective communication strategies as problems affecting utilization of health information resources. Poor health information literacy is identified by Naidoo (2012) as the major problem

affecting utilization of health information resources. More also, Abazi, Vanaki, Muhammad and Amini (2012) In a study, factors affecting the utilization of electronic health information identified poor internet connectivity, limited time, lack of awareness of the existence of health information resources and inaccessibility to health information resources as major problems affecting utilization of health information resources.

One of the major challenges to health information utilization is illiteracy or lack of knowledge. Anyaoku and Nwosu (2017) explained that, most of the diabetic people are illiterates; as such they cannot read and write thereby preventing them access to or use of some health information resources such as books, brochures, leaflets and other printed materials. The authors also maintained that, the most suitable sources of health information to these categories of patients are audio-visual and interpersonal communication which include, radio, television, age group association and alike. Some of the sources such as audio-visual are not common in the villages where majority of diabetic patients live and other sources like age groups associations and alike do not pass current information. Anyaoku and Nwosu (2017) asserted that, absence of medical and public libraries also poses a problem of utilization of health information. The essence of libraries most especially public, is to provide information to all categories of persons in the society bearing in mind that some of these persons cannot read and write, these libraries must provide not only books and other materials but also a lot of non-print and audio-visual materials because illiterate people obtain and understand information better through oral, visual and auditory means of communication, but those public and medical libraries are not there to perform the above mentioned functions, thereby creating a challenge of utilization of health information resources through this source or information system.

Absence of radio/television programmes in local language has also been identified as one of the problems militating against effective utilization of health information. Park (2011) argued that, the radio/television programmes in national language- English posed a problem of access to information by diabetic patients, since majority of them are illiterates and do not understand English language which is the national language. The assertion seems correct in the sight of Naidoo (2012) who identified lack of health information literacy as a major challenge to health information utilization.

Another challenge to utilization of health information is slow adoption of information technology. Information technology which bring about a significant transformation in the nation's health system, with the Internet serving as a major agent of change. Information technology contributes significantly in enhancing clinical decision by making real-time data available, increasing communication among providers and with patients through such approaches as remote medical consultations, collecting and aggregating clinical information and evidence into accessible information databases, facilitating patient access to reliable health information, and reducing medical errors (Institute of Medicine, 2011).

Despite the range of areas in which information and communications technology could make a substantial contribution to enhancing health information access, quality, and service while reducing costs, Nigeria has been slow to invest in and embrace such technology. Consequently, health information delivery has not been touched to the same degree by the revolution that has been transforming nearly every other aspect of society (Wilson, 2015). Most health and clinical information is still stored in a collection of poorly organized and often illegible paper records (Gathoni, 2012). Few patients have e-mail access to their caregivers. Most

patients do not benefit from even the simplest decision aids, such as patient reminder systems. Finally, an unacceptable number of medical and health errors occur because there are few information systems in place to process and check the vast amount of health and clinical data that flows through the system (Aaronson, Mural and Pfoutz, 2008). In essence, existing health information systems typically do not collect and store the right health information; health information is not sufficiently automated or computerized; health information is not integrated or linked to each other; and lack the hardware, software, and data entry support necessary for retrieval and analysis of health information.

The major impediment to the greater use of information and communications technology is the absence of national standards for the capture, storage, communication, processing, and presentation of health information (Milewski and Chen, 2010). This led to poor national health information infrastructure.

2.3 Review of Related Empirical Studies

Naidoo (2012) carried out a study on the information needs and information seeking behaviour of adult diabetic patients at Addington hospital, Durban South Africa. The purpose of the study was to determine the sources diabetic patients use in accessing health information and challenges they encountered in seeking and utilization of health information. Survey research design was used for the study. The population of the study was 83 which comprised of 76 diabetic patients, one medical doctor, four nursing staff and two diabetic dieticians. Two instruments namely interview schedule and questionnaire were used to collect data for the study. The collected data was analyzed using descriptive statistical analysis. The findings of the study revealed that, majority of diabetic patient’s access health information during the course of their

daily activities such switching between televisions channels, listening to their favourite radio stations or by reading the newspapers or magazines. The study also revealed that, diabetic patients accessed health information through internet and public libraries. The findings of the study equally revealed that, the patients found it difficult to understand the sources of health information available; another challenge established by the study was that patients do not know where to find health information other than that provided by health professionals.

The reviewed study relates with the present study as both studies examined on diabetic patient's sources of accessing health information and challenges of utilization of health information. However, the reviewed study is different from the present study in the areas of location and instrument for data collection. The reviewed study was conducted in South Africa while the present study is conducted in Benue state, Nigeria. The reviewed study used interview schedule and questionnaire as instrument for data collection while the current study used only questionnaire for data collection. In addition, the current study hinged on assessment of utilization of health information resources by diabetic patients while the reviewed study was on information needs and information seeking behaviour of adult diabetic patients. Again, the reviewed study used survey research design while the present study used descriptive research design. The reviewed study also used frequency counts and percentages as its statistical tools while the present study used frequency counts and percentages, mean and standard deviation as its statistical tools. The reviewed study investigated only sources of accessing health information and challenges encountered in seeking and utilization of health information, the present study went further to investigate the types of health information resources, find out whether diabetic patients used health information resources and their extent of utilization of health information. That is to say, the present study is broader than the reviewed study.

Nwagwu and Ajama (2011) conducted on health information needs, sources and information seeking behaviour of women in rural communities in South-Western Nigeria. The study investigated health information sources the rural women explore to meet their health information needs, the types of health information resources they use and challenges faced by the rural women in using health information sources. The study used survey research design. The population of the study comprised of 480 rural women. Two instruments namely, focus group discussion and questionnaire were used as instrument for data collection. Descriptive statistical analysis was used to analyze the collected data. The findings of the study revealed that, the rural women sought health information through television, radio, traditional healers, health workers, chemist shop drug sellers, local herb hawkers and friends/family. The findings also indicated that, the rural women use posters, handbills, newspapers and magazines to get health information. The long distance to health centers and exorbitant fees charge by hospitals discourage the rural women use of modern health information from health professionals and lack of health information system in the rural area posed challenge to access and utilization of health information by the rural women in South-Western Nigeria.

Nwagwu and Ajama's study is relevant to the present study as both examine types of health information resources, sources of accessing health information and challenges of utilization of health information. The reviewed study centers on rural women while the present study dwelled on diabetic patients as whole including both men and women. The reviewed study is different from the current study in the areas of location and instrument for data collection as the reviewed study was conducted in rural areas and used focus group discussion as instrument for data collection. The current study comprised of both rural and urban areas and used only questionnaire as instrument for data collection. The reviewed study was guided by three research

questions and two hypotheses while the current study has answer five research questions and do not make use of hypotheses. The reviewed study used frequency counts and percentages as its statistical tools while the current study used frequency counts and percentages, mean and standard deviation as its statistical tools. The present study investigated the utilization of health information resources by diabetic patients while the reviewed study was on health information needs, sources and information seeking behaviour of women in rural communities as such it does not addressed all the variables of the present study.

Firoozeh, Anasik & Akbar (2015) in a study "how health information is retrieved by diabetic patients". The study investigated the sources diabetic patients use to access health information and extent of utilization of the sources of health information. Survey research design was used for the study. The population of the study comprised of 6426 diabetic patients. Stratified random sampling technique was used to select a sample sized of 362. Modified Longo's information seeking behaviour questionnaire was used as instrument for data collection. The collected data was analyzed using descriptive statistical analysis. The findings of the study revealed that, information sources used by diabetic patients included interpersonal interactions with people such as medical practitioners, nurses, other care providers and charity or support organizations for diabetic patients, family members, friends, co-workers and other diabetic patients and medical librarians. Among these people, medical practitioners and family members had the highest and medical librarians have the lowest number of visits. New media such as satellite TV, Internet, social networks and other similar media were used less than other information sources; however, among these media Internet has been used more often than satellite TVs. Among traditional media (news, television, radio, newspapers, medical journals,

magazines, brochures, booklets and posters), television, radio and news had the highest and libraries had the lowest number of users.

The reviewed study relates to the present study as both focused on diabetic patients. However, the area of study of each study is different. In addition, the current study examined the types of health information resources required by diabetic patients, sources of accessing health information, extent of utilization of the sources of health information and challenges of utilization of health information while the reviewed study was only on sources of accessing health information resources by diabetic patients and the extent of utilization of the sources which is just a part of the present study. Also, the present study used descriptive research design and frequency counts and percentages, mean and standard deviation as its statistical tools while the reviewed study used survey research design and frequency counts and percentages as its statistical tool. The reviewed study centered on how health information is retrieved by diabetic patients". This investigated the sources diabetic patients use to access health information and extent of utilization of the sources of health information. The present study intends went further to investigate the types of information resources diabetic patients required and used as well as the challenges they encountered in utilizing health information resources. This is the gap in knowledge observed which this study meant to fill.

Kalantzi, Kotagiolas, Kechagias, Niakas and Makrilakis (2015) conducted a study on information seeking behaviour of patients with diabetes Mellitus in an outpatient clinic of University affiliated hospital in Anthems, Greece. The purpose of the study was to examine health information resources used by diabetic patients and obstacles encountered in seeking and utilization of health information. The study adopted survey research design and questionnaire

was used to collect data from 203 diabetic patients. The collected data was analyzed using descriptive statistical analysis. The findings of the study revealed that, diabetic patients seek health information from books, leaflets, magazines, newspapers, newsletters, medical journals and brochures. The study also indicated that, the sources diabetic patients' access health information included health practitioners, Internet, broadcast media (television and radio), family and friends, seminars and other diabetic patients. The study identified lack of time, lack of computer infrastructure, lack of computer literacy, psychological issues and problems in doctor-patient relationship as obstacles to diabetes related information utilization.

The reviewed study relates to the present study as both examined types of health information resources require by diabetic patients, sources they used to access health information and problems of utilization of health information. However, the present study went further to examined the extent of utilization of the sources of health information by diabetic patients. Differences also exist between the reviewed study and the present study in areas of location and research design. The reviewed study was conducted in Anthems, Greece while the preset study is in Benue state Nigeria and the reviewed study adopted survey research design while the present study used descriptive research design. The reviewed study was guided by two hypotheses and three research questions while the present study does not use hypotheses and have five research questions. Again, the reviewed study used descriptive and inferential statistic as data analysis techniques while the present study used frequency counts, percentages, mean and standard deviation as its statistical tools. The reviewed study centered on information seeking behaviour of patients with diabetes Mellitus by investigating health information resources used by diabetic patients and obstacles encountered in seeking and utilization of health information. The present study focused on utilization of health information resources by diabetic patients. The study went

further and investigated the sources of accessing health information resources by diabetic patients and extent of utilization of health information resources by diabetic patients. This is the gap in knowledge observed which this study meant to fill.

Angya (2012) carried out a study on information needs and resource utilization by people living with HIV/AIDS in federal medical center Makurdi. The purpose of the study was to examine the types of health information resources people living HIV/AIDS require, the sources they used to get health information and barriers to access health information by people living with HIV/AIDS. The study adopted a survey research design. Sample size of 120 was selected from the registered HIV/AIDS patients from federal medical center Makurdi using simple random sampling technique. Questionnaire was used as instrument for data collection. The collected data was analyzed using descriptive statistical analysis. The findings of the study revealed that, people living with HIV/AIDS used health information resources such as newsletters, pamphlets, treatment fact sheets, brochures, medical journals, newspapers and magazines. The findings also revealed that the people living with HIV/AIDS access health information through sources like radio, television, health workers, ministry of health and non-governmental organizations. The study identified absence of medical/public libraries, absence of radio/television programmes on HIV/AIDS in local languages, inexplicit nature of health information resources, absence of HIV/AIDS data/information exchange network and ineffective communication strategies as barriers to access and utilization of health information.

The reviewed study relates to the current one in that both examined utilization of health information resources by investigating the types of health information resources required by patients, sources of accessing health information and barriers to access and utilization of health

information. Although, the reviewed study centered on people living with HIV/AIDS while the current study centered on diabetic patients but utilization of health information is central in both of the studies. The relationship between the reviewed study and the current study also exist in areas of location and instrument for data collection. The reviewed study was carried out in Benue state Makurdi metropolis and used questionnaire as instrument for data collection, the present study equally was carried out in Benue state and also used questionnaire as instrument for data collection. The reviewed study focused on HIV/AIDS while the present study focused on diabetes. This is the gap in knowledge observed which this study is meant to fill.

Anyaoku and Nwasu (2017) conducted a study on extent of access to health information and sources for chronic disease patients in tertiary health institutions in South East Nigeria: implications for libraries role. The study examined sources of access to health information for patients with chronic diseases. The chronic diseases covered by this study include hypertension, diabetes, cancer, kidney disease and HIV/AIDS. Cross sectional survey research design was used for the study and questionnaire was used to collect data for the study. A sample size of 784 was drawn from University of Nigeria Teaching Hospital, Enugu state and Namdi Azikiwe University Teaching Hospital, Anambra state. The collected data was analyzed using descriptive statistics. The findings of the study revealed that, Doctors were the major source of health information; others include Pharmacists, Nurses, other patients, churches, family members, Television, Radio and Internet.

The reviewed study is related with the present study as both studies centered on health information. In addition, the reviewed study also relates with the current study as both examined sources of accessing health information by patients. Also both studies were conducted in tertiary

hospitals. Questionnaire was used as instrument for data collection for both studies. However, the current study covered only diabetic patients while the reviewed study covered chronic diseases which included hypertension, diabetes, cancer, kidney disease and HIV/AIDS. Also, the reviewed study used survey research design while the present study used descriptive research design. The reviewed study used frequency counts and percentages as its statistical tool while the current study used frequency count and percentage, mean and standard deviation as its statistical tools. The reviewed study examined sources of access to health information for patients with chronic diseases. The chronic diseases covered by the study include hypertension, diabetes, cancer, kidney disease and HIV/AIDS. The reviewed study investigated the sources of accessing health information. The present study focused only on diabetes and went further to investigate the types of health information resources the diabetic patients required and used, their extent of utilization of the information resources and challenges they encountered in utilizing health information resources. This is the gap in knowledge observed which this study is meant to close.

Edewor (2010) carried out a study on utilization of health information resources by people living with HIV/AIDS in south-south geopolitical zone of Nigeria. The study was designed to investigate the types of health information resources HIV/AIDS patients utilize and barriers to their access and utilization of health information resources. The survey research design was used for the study. The population of the study comprises of all the registered 3875 people living with HIV/AIDS in government hospitals in south-south geopolitical zone of Nigeria. A sample size of 320 was drawn from the population using simple random sampling technique. Two instruments, questionnaire and interview was used for data collection. The collected data was analyzed using frequency counts and percentages. The findings of the study revealed that, medical journals, medical newsletters, medical pamphlets, treatment facts, medical

brochure, medical posters and internet were the types of health information resources HIV/AIDS patients utilize. The study also revealed the barriers to access and utilization of health information resources by HIV/AIDS to include lack of health information infrastructure and workforce capacity, inadequate funds, inexplicit nature of health information resources, ineffective communication strategies and illiteracy.

The reviewed study relates with the present one in that, both studies investigates utilization of health information resources by hospital patients and investigated the types of health information resources they utilize as well as problems of utilization of health information resources. However, the present study centers on diabetic patients while the reviewed study focused on HIV/AIDS patients. The reviewed study is also different from the present study in that, the reviewed study used survey research design while the present study used descriptive research design. The present study used Taro Yemen formula for sample size determination to draw the sample size while the reviewed study used simple random sampling technique to draw its sample size. The reviewed study used two instruments: questionnaire and interview as its instruments for data collection while the present study used only questionnaire. Again, the present study used frequency counts and percentages, mean and standard deviation as its statistical tools while the reviewed study used frequency counts and percentages as its statistical tools. The reviewed study focused on HIV/AIDS while the present study focused on diabetics.

2.4 Summary of Literature Review

The review of literature was organized under four main headings; theoretical framework, conceptual framework with subheadings, the review of related empirical studies and summary of literature reviewed. The theoretical framework featured information utilization model by Lenz

1984 which acknowledge the stages of health information utilization process as well as sources that could help the diabetic patients utilized health information effectively to manage their health condition.

Conceptual framework indicated that, health information resources are all the media for storing health information, they include both print and non-print such as books, medical journals, newsletters, brochures, tapes, videos, CD-ROM technology among others. The review also sees health information utilization as the patients' ability to identify and obtain relevant, accurate and suitable health information to satisfy health information needs. The literature review under conceptual framework indicated that, Sources of accessing health information are the channel or medium through which diabetic patients get health information and that these sources are group into three- interpersonal sources, traditional media and new media. Interpersonal sources refer to obtaining information from people such as health practitioners, nurses, other health care providers, charity, or support organizations for diabetic patients, family members, friends, co-workers, other diabetic patients, and medical librarians. Traditional media include news, television, radio, newspapers, medical journals, medical magazines, medical brochures, booklets, and posters. The new media include satellite TVs, Internet, social networks, and other similar media.

Works reviewed under conceptual framework are in consensus that, health practitioners, family members, internet; television and radio are most frequent sources of accessing health information by diabetic patients while libraries had the lowest number of uses. Also, in the review, scholars agreed that, illiteracy, absence of radio/television programmes on diabetes in local languages, absence of medical/public libraries, slow adoption of information

technology and poor Internet connectivity among others are challenges to utilization of health information by diabetic patients.

Seven related empirical studies were reviewed but none of them specifically dealt with assessment of utilization of health information resources by diabetic patients. As a result, there is a need for a research aimed at assessing utilization of health information resources by diabetic patients in Benue state. It is against this background that the study was conducted to fill the gap in knowledge.

3.0 METHODOLOGY

This section presents the research design, the study area, population of study, sample and sampling techniques, instrument of data collection, validation of instrument, reliability of the instrument, method of data collection and data analysis techniques.

3.1 Research Design

The study adopted descriptive research design. Emaikwu (2015) defined descriptive research design as a design which aim at collecting data and describing in a systematic manner the characteristics, features, or facts about a given population. Descriptive research design was chosen to obtain information concerning the current states of the phenomena to describe what exists with respect to health information utilization by diabetic patients.

3.2 The Study Area

The study was carried out in Benue State. Benue State lies within the lower river Benue in the middle belt region of Nigeria. Its geographic coordinates are longitude 7° 47' and 10° 0' East. Latitude 6° 25' and 8° 8' North; and shares boundaries with five other states namely: Nasarawa State to the north, Taraba State to the east, Cross-River State to the south, Enugu State to the south-west and Kogi State to the west. The state also shares a common boundary with the Republic of Cameroon on the south-east. Benue occupies a landmass of 34,059 square kilometers. It is inhabited predominantly by the Tiv, Idoma and Igede peoples, who speak the Tiv language, Idoma, and Igede respectively, (Wikipedia retrieved 17/1/2018). Benue State is one of the 36 State in Nigeria. Benue state is divided into three zones namely, A, B, and C. Zones A and B are inhabited by Tiv speaking people and comprised of seven local government areas each while zone C is inhabited by Idoma and Igede tribes and have nine local government

areas. Two tertiary hospitals are located in Benue state, Federal Medical Center, Makurdi and Benue state University Teaching Hospital, Makurdi as well as 23 General Hospitals located in each local government area. The study chooses Benue State because the two tertiary hospitals in the state and the 23 General Hospitals have medical libraries that are supposed to be utilized by both the health workers and diabetic patients.

3.3 Population of the Study

The population of the study comprised of all the one thousand six hundred and ninety-eight (1,698) registered diabetic patients in 2017 and 2018 as at the time of the research at Federal Medical Center, (FMC) Makurdi, Benue state University Teaching Hospital (BSUTH), General Hospital Katsina-Ala and General Hospital Otukpo, which represents the three zones in Benue state, (FMC & BSUTH represent zone B, General Hospital Katsina-Ala represent zone A while General Hospital Otukpo represent zone C) (diabetes statistics, 2017). FMC Makurdi have 491 registered diabetic patients, BSUTH have 698 registered diabetic patients, General Hospital Katsina- Ala have 272 registered diabetic patients while General Hospital Otukpo have 237 registered diabetic patients which summed up the total population of the study. (See Appendix F, p. 67).

3.4 Sample and Sampling Technique

A sample size of 324 registered diabetic patients in the hospitals under study was drawn from the population of the study using Taro Yamen formula for sample size determination. (See Appendix C, p. 60). Proportionate stratified random sampling technique was used to stratify the sample size of 324 diabetic patients in to four strata based on population, where FCM have 130, BSUTH have 97, General Hospital Katsina-Ala have 65 and General Hospital Otukpo have 32

(See Appendix D, p.61). Simple random sampling technique was then used to select actual sample in each stratum by selecting respondents at random without replacement from the population in each hospital that equate the overall sample. Simple random sampling technique is chosen because it gave every member of the population an equal opportunity to be chosen. The four hospitals were purposively selected to represent the three senatorial zones in Benue state.

3.5 Instrument of Data Collection

A self-designed instrument was used as instrument for data collection titled "Assessment of Utilization of Health Information Resources by Diabetic Patients Questionnaire (AUHIRDPBSQ). The questionnaire was divided into five sections; A, B, C, D, E, with total number of 98 items. Section A of the questionnaire was designed to find out the types of health information resources require by diabetic patients, it comprises of 22 items, with response option of Required and Not Required. Section B sought to find out sources of accessing health information resources by diabetic patients, it comprises of 17 items, with response option of Yes and No. Section C sought to find out the utilization of the sources of accessing health information resources by diabetic patients, it comprises 22 items with response options of utilized and not utilized. Section D sought to find out the extent of utilization of sources of health information by diabetic patients, it comprises of 22 items, with response option of Highly Utilize, Moderately Utilize, Utilize and Not Utilize while Section E sought to find out the challenges of utilization of health information resources by diabetic patients, it comprises of 15 items, with response option of Strongly Agree (SA), Agree (A), Disagree, (D), and Strongly Disagree (SD) (See Appendix B, p. 55). The rating score for required and not required, Yes and No and Utilized and Not Utilized was 2 and 1 while that of Strongly Agree (SA), Agree (A), Disagree, (D), and Strongly Disagree (SD) was 4,3,2 and 1 respectively.

3.6 Validation of the Instrument

The instrument was validated by three experts. One is a medical practitioner from Benue state University Teaching hospital, two from the Department of Educational Foundations and General studies which one is an expert in Library and Information Science while the other is from Test and Measurement all from University of Agriculture, Makurdi. Originally, the instrument has 80 items and were returned 98, 18 items were added on the instrument by the validates. The experts critically examined each item and made comments on their suitability or ambiguity and also corrected grammatical mistakes. Unclear statements, wrongly conceived ideas, missing information and other observed errors were corrected by the experts, some items were modified and in some cases new ones were incorporated. Their comments, suggestions and corrections were used to modify the instrument for the supervisors' approval after which the final copies were produced. (See Appendix G, p, 68).

3.7 Reliability of the Instrument

The questionnaire was administered to 45 diabetic patients from the Federal Medical Center Lafia, Nasarawa state because it is not part of the study area. Internal consistency reliability of it was established using Cronbach Alpha method. The Cronbach Alpha method yielded a reliability coefficient of 0.86 which was reliable. According to Emaikwu (2015) an instrument (questionnaire) with a reliability index between 0.80 and above is considered highly reliable.

3.8 Method of Data Collection

Three hundred and twenty-four (324) copies of structured questionnaire were administered by the researcher and with the aid of four (4) research assistants drawn from the four (4) sampled hospitals in Benue state. The researcher engaged the four (4) research assistants

who were medical practitioners at various sampled hospitals who were assisted in administering the questionnaire in the sampled hospitals. The choice of these research assistants is a result of the large geographical spread of respondents for the study, the research assistants were informed by the researcher on what to do during the first visit to the hospitals on some technical terms used in the questionnaire, so as to properly assist the researcher in the distribution of the questionnaire, directing respondents on how to complete it, interpreting the questionnaire to non-literate respondents and collection of questionnaire after completion. The research assistants were directed to collect the questionnaire as soon as it is completed. The approach is aim at minimizing questionnaire mortality. On collection of completed instrument, the assistants were required to send them back to the researcher within two months. Where there are hitches, the assistants were advised to notify the researcher for possible solutions.

3.9 Data Analysis Techniques

The data collected was analyzed using descriptive statistics. Research question one, two and three were answered using frequency counts and percentages while four and five were answered using mean and standard deviation. Any percentage that is above 50% was regarded as required, Yes and Utilized while less than 50% was Not Required, No and Not Utilized. Also, a mean of 2.50 and above was regarded as Agreed and less as Disagreed. The extent of utilization was classified: a cluster mean of 2.50 and above was considered high extent and less than 2.50 was considered as low extent.

4.0 RESULTS AND DISCUSSION

This chapter is concerned with data presentation, analysis, interpretation and discussion of findings. The presentation follows the sequence of the research questions answered.

4.1 Results

4.1.1 Research Question One:

What are the types of health information resources required by diabetic patients in Benue state?

To answer this research question, data on the types of health information resources required by diabetic patients in Benue state were collected and analyzed as presented on Table 1

Table 1: Frequency Counts and Percentage Analysis of the types of health information resources required by diabetic patients in Benue state

S/No	ITEMS	Frequency		Percentage (%)		Decision
		R	NR	R	NR	
1	Medical Books	298	26	91.9	8.1	Required
2	Medical journals	298	26	91.9	8.1	Required
3	Medical Newspapers	294	30	90.7	9.3	Required
4	Medical Magazines	297	27	91.6	8.4	Required
5	Medical Brochures	296	28	91.4	8.6	Required
6	Treatment fact sheet	300	24	92.6	7.4	Required
7	Medical Newsletters	299	25	92.3	7.7	Required
8	Medical Posters	289	35	89.2	10.8	Required
9	Medical Bill boards	300	24	92.6	7.4	Required
10	Medical Leaflets	299	25	92.3	7.7	Required
11	Medical Pamphlets	289	35	89.2	10.8	Required
12	Medical Tapes	287	37	88.6	11.4	Required
13	Medical Videos	300	24	92.6	7.4	Required
14	Medical Cassettes	320	04	98.8	1.2	Required
15	Medicos	324	00	100	0.00	Required
16	Medical e-journals	290	34	89.5	10.5	Required
17	Medical e-books	312	12	96.3	3.7	Required
18	Medline plus	289	35	89.2	10.8	Required
19	Medical Films	287	37	88.6	11.4	Required
20	Microforms	300	24	92.6	7.4	Required
21	ClinicalTrials.gov	320	04	98.8	1.2	Required
22	Medical Dictionaries	324	00	100	0.00	Required

Table 1 showed the types of health information resources required by diabetic patients in Benue state. As revealed on the table, all the items (1-22) with percentage values of required above 50% and are considered the types of health information resources required by diabetic patients in Benue State.

4.1.2 Research Question Two:

What are the sources of accessing health information by diabetic patients in Benue State?

To answer this research question, data on the sources of accessing health information by diabetic patients in Benue state were collected and analyzed as presented on Table 2

Table 2: Frequency Counts and Percentage Analysis of the sources of accessing health information by diabetic patients in Benue State

S/No	ITEMS	Frequency		Percentage (%)		Decision
		YES	NO	YES	NO	
23	Medical Practitioners	298	26	91.9	8.1	YES
24	Nurses	298	26	91.9	8.1	YES
25	Other health workers	294	30	90.7	9.3	YES
26	Charity or support organizations	27	297	8.4	91.6	NO
27	Family members	28	296	8.6	91.4	NO
28	Friends	24	300	7.4	92.6	NO
29	Co-workers	25	299	7.7	92.3	NO
30	Other diabetic patients	289	35	89.2	10.8	YES
31	Television programmes	300	24	92.6	7.4	YES
32	Radio programmes	299	25	92.3	7.7	YES
33	Library	35	289	10.8	89.2	NO
34	Internet	37	287	11.4	88.6	NO
35	Social Networks	24	300	7.4	92.6	NO
36	Church	4	320	1.2	98.8	NO
37	Peer groups	00	324	0.00	100	NO
38	Seminars/workshops	34	290	10.5	89.5	NO
39	Public lectures	12	312	3.7	96.3	NO

Table 2 showed the sources of accessing health information by diabetic patients in Benue state. As revealed on the table, items 23, 24, 25, 30, 31, and 32 with percentage values of Yes above 50% were considered the sources of accessing health information by diabetic patients. Items 26,

27, 28, 29, 33, 34, 35, 36, 37; and 39 with percentage values of Yes below 50% were considered not the sources of accessing health information by diabetic patients in Benue State.

4.1.3 Research Question Three:

What are the health information resources utilized by diabetic patients in Benue State?

To answer this research question, data on the health information resources utilized by diabetic patients in Benue state were collected and analyzed as presented on Table 3

Table 3: Frequency Counts and Percentage Analysis of the health information resources utilized by diabetic patients in Benue state

S/No	ITEMS	Frequency		Percentage (%)		Decision
		U	NU	U	NU	
40	Medical Books	36	288	11.1	88.9	Not Utilized
41	Medical journals	26	298	8.1	91.9	Not Utilized
42	Medical Newspapers	30	294	9.3	90.7	Not Utilized
43	Medical Magazines	27	297	8.4	91.6	Not Utilized
44	Medical Brochures	28	296	8.6	91.4	Not Utilized
45	Treatment fact sheet	300	24	92.6	7.4	Utilized
46	Medical Newsletters	25	299	7.7	92.3	Not Utilized
47	Medical Posters	289	35	89.2	10.8	Utilized
48	Medical Bill boards	300	24	92.6	7.4	Utilized
49	Medical Leaflets	299	25	92.3	7.7	Utilized
50	Medical Pamphlets	35	289	10.8	89.2	Not Utilized
51	Medical Tapes	37	287	11.4	88.6	Not Utilized
52	Medical Videos	300	24	92.6	7.4	Utilized
53	Medical Cassettes	4	320	1.2	98.8	Not Utilized
54	Medicus	00	324	0.00	100	Not Utilized
55	Medical e-journals	34	290	10.5	89.5	Not Utilized
56	Medical e-books	12	312	3.7	96.3	Not Utilized
57	Medline plus	35	289	10.8	89.2	Not Utilized
58	Medical Films	37	287	11.4	88.6	Not Utilized
59	Microforms	24	300	7.4	92.6	Not Utilized
60	ClinicalTrials.gov	4	320	1.2	98.8	Not Utilized
61	Medical Dictionaries	4	320	1.2	98.8	Not Utilized

Table 3 showed the health information resources utilized by diabetic patients in Benue State. As revealed on the table, items 45, 47, 48, 49, and 52 have percentage values for utilized above 50%

while items 40, 41 42, 43, 44, 46, 54, 55; 56, 57, 58, 59; 60, and 61 have percentage values for Utilized below 50%. Hence, only items 45, 47, 48, 49, and 52 are considered the health information resources utilized by diabetic patients in Benue State.

4.1.4 Research Question Four:

What is the extent of utilization of health information resources by diabetic patients in Benue state?

To answer this research question, data on the extent of utilization of health information resources by diabetic patients in Benue state were collected and analyzed as presented on Table 4

Table 4: Mean and Standard Deviation Analysis of the extent of utilization of health information resources by diabetic patients in Benue State

S/No	ITEMS	N	Mean	SD	Decision
62	Medical Books	324	2.10	0.71	Low Extent
63	Medical journals	324	2.07	0.73	Low Extent
64	Medical Newspapers	324	2.19	0.69	Low Extent
65	Medical Magazines	324	2.21	0.77	Low Extent
66	Medical Brochures	324	2.22	0.76	Low Extent
67	Treatment fact sheet	324	2.61	0.80	High Extent
68	Medical Newsletters	324	2.00	0.70	Low Extent
69	Medical Posters	324	2.60	0.63	High Extent
70	Medical Bill boards	324	2.59	0.69	High Extent
71	Medical Leaflets	324	2.61	0.80	High Extent
72	Medical Pamphlets	324	2.28	0.69	Low Extent
73	Medical Tapes	324	2.13	0.81	Low Extent
74	Medical Videos	324	2.65	0.72	High Extent
75	Medical Cassettes	324	2.27	0.79	Low Extent
76	Medicus	324	2.19	0.83	Low Extent
77	Medical e-journals	324	2.20	0.81	Low Extent
78	Medical e-books	324	2.32	0.68	Low Extent
79	Medline plus	324	2.29	0.71	Low Extent
80	Medical Films	324	2.24	0.66	Low Extent
81	Microforms	324	2.16	0.74	Low Extent
82	ClinicalTrials.gov	324	2.29	0.65	Low Extent
83	Medical Dictionaries	324	2.21	0.71	Low Extent
	Cluster Mean		**2.29**	**0.73**	**Low Extent**

Table 4 showed the extent of utilization of health information resources by diabetic patients in Benue State. As revealed on the table, except for items 67, 69, 70, 71 and 74 with mean values ranging from 2.59 - 2.65, the respondents rated low extent on all other items with mean values ranging from 2.00 – 2.32. The table also revealed a cluster mean of 2.29 and SD = 0.73. With this cluster mean of 2.29 which is below the benchmark of 2.50, it can be deduced from this finding that the extent to which diabetic patients utilize health information resources in Benue State is low.

4.1.5 Research Question Five:

What are the challenges of utilization of health information resources by diabetic patients in Benue State?

To answer this research question, data on the challenges of utilization of health information resources by diabetic patients in Benue state were collected and analyzed as presented on Table 5

Table 5: Mean and Standard Deviation Analysis of the challenges of utilization of health information resources by diabetic patients in Benue state

S/No	ITEMS	N	Mean	SD	Decision
84	Lack of health information resources	324	3.24	0.87	Agree
85	Difficulties in understanding the available health information resources	324	3.05	0.98	Agree
86	Lack of applicability of health information resources	324	3.22	0.86	Agree
87	Distance to health information sources	324	3.24	0.93	Agree
88	Absence of diabetes data	324	3.21	0.91	Agree
89	Absence of diabetes information network	324	3.60	0.89	Agree
90	Ineffective communication strategies	324	3.23	0.98	Agree
91	Poor health information literacy	324	3.39	0.98	Agree
92	Lack of awareness of the existence of health information resources	324	3.11	0.98	Agree
93	Poor Internet connectivity	324	3.64	0.93	Agree
94	Absence of radio/television programmes on diabetes in local languages	324	3.20	0.96	Agree
95	Absence of medical and public libraries	324	3.36	0.98	Agree
96	Slow adoption of Information Technology	324	3.54	0.79	Agree
97	Lack of computer operation skills	324	3.52	0.87	Agree
98	Inaccessibility of health information resources	324	3.04	0.88	Agree

Table 5 showed the challenges of utilization of health information resources by diabetic patients in Benue State**.** As revealed on the table, the respondents agreed to all the items (84-98) with Mean values ranging from 3.04 – 3.64 which are above the benchmark of 2.50 as challenges of utilization of health information resources by diabetic patients in Benue State.

4.2 Summary of Findings of the Study

The following findings emanated from the study based on the research questions answered

1. The types of health information resources required by diabetic patients in Benue State include; medical newspapers, medical magazines, medical brochures, treatment fact sheet, medical newsletters, medical posters, medical bill boards, medical leaflets, medical pamphlets, medical tapes, medical videos, medical cassettes, medicos, medical e-journals, medical e-books, Medline plus, medical films, microforms, clinicaltrials.gov, and medical dictionaries.
2. Medical practitioners, nurses, other health workers, other diabetic patients, television programs and radio programs are the sources of accessing health information by diabetic patient in Benue State.
3. The health information resources utilized by diabetic patients in Benue State include: treatment fact sheet, medical posters, medical bill boards, medical leaflets and medical videos.
4. Health information resources are to a low extent utilized by diabetic patients in Benue State
5. The challenges of utilization of health information resources by diabetic patients in Benue State include: lack of health information resources, difficulty in understanding the available health information resources, lack of applicability of health information resources, distance to health information sources, absence of diabetes data and diabetes information network, poor health information literacy, lack of awareness of the existence of health information resources, absence of radio/television programmes on diabetes in local languages, absence of medical and public libraries, slow adoption of information

technology, lack of computer operation skills, and inaccessibility of health information resources

4.3 Discussion of Findings

Based on the findings derived from the results of the study, the following were discussed.

Findings of the study as shown on Table 1 revealed that; medical newspapers, medical magazines, medical brochures, treatment fact sheet, medical newsletters, medical posters, medical bill boards, medical leaflets, medical pamphlets, medical tapes, medical videos, medical cassettes, medicos, medical e-journals, medical e-books, medline plus, medical films, microforms, clinicaltrials.gov, and medical dictionaries are the types of health information resources required by diabetic patients in Benue State. This finding corroborate with that of Kalantzi, Kotagiolas, Kechagias, Niakas and Makrilakis (2015) whose study on information seeking behaviour of patients with diabetes Mellitus reported that, diabetic patients seek health information from books, leaflets, magazines, newspapers, newsletters, medical journals and brochures. This finding as observed implies that a plethora of health information resources are required by diabetic patients in the treatment and management of their disease.

Findings of the study as shown on Table 2 revealed that; medical practitioners, nurses, other health workers, other diabetic patients, television programs and radio programs are the sources of accessing health information by diabetic patient in Benue State. This finding corroborates with that of Naidoo (2012) whose study on the information needs and information seeking behaviour of adult diabetic patients reported that, majority of diabetic patient's access health information during the course of their daily activities such switching between televisions channels, listening to their favourite radio stations or by reading the newspapers or magazines. Similarly, the finding corroborates with that of Firoozeh, Anasik and Akbar (2015) who in a study on "how health

information is retrieved by diabetic patients" reported the information sources used by diabetic patients to include: interpersonal interactions with people such as medical practitioners, nurses, other care providers and other diabetic patients. However, the report of Firoozeh, Anasik and Akbar (2015) and Naidoo (2012) that, medical librarians, public libraries and internet constitute the information sources of diabetic patients disagree with the findings of this study. The non-utilization of medical libraries as observed in the finding of the present study could be that, diabetic patients are not aware of the existence and importance of medical libraries in addressing their health challenges.

Findings of the study as shown on Table 3 revealed that; treatment fact sheet, medical posters, medical bill boards, medical leaflets and medical videos are the health information resources utilized by diabetic patients in Benue State. The finding agrees with that of Edewor (2010) who reported that, medical pamphlets, treatment facts and medical posters were the types of health information resources HIV/AIDS patients utilize. This finding also corroborate with that of Nwagwu and Ajama (2011) whose study on health information needs, sources and information seeking behaviour of women in rural communities in South-Western Nigeria reported that, the rural women use posters, handbills, newspapers and magazines to get health information. The finding of Nwagwu and Ajama (2011) was however not specific to diabetic patients but general health information needs. The implication of this finding is that only few information resources are utilized by diabetic patients in Benue State. It could be that most of the information resources are not accessible to them which subsequently resulted to the utilization of a few of the resources. It is worthy of note from this finding that lack of utilization of health information is a problem because this might create a vacuum in diabetic patients' understanding of their diseases and ultimately affect their perception of their capability to manage these diseases.

Findings of the study as shown on Table 4 revealed that health information resources are to a low extent utilized by diabetic patients in Benue State. This finding corroborate with that of Firoozeh, Anasik and Akbar (2015) who reported that libraries and New media such as satellite TV, Internet, social networks and other similar media were used less by diabetic patients than other information sources. Since the extent of utilization of health information is dependent on access to health information sources and on the diabetic patient's health information literacy, the implication of this finding is that, diabetic patients in Benue State have limited access to information resources. Limited health information access affects diabetic patients to effectively utilize health information sources.

Findings of the study as shown on Table 5 revealed that; lack of health information resources, difficulties in understanding the available health information resources, lack of applicability of health information resources, distance to health information sources, absence of diabetes data, absence of diabetes information network, poor health information literacy, lack of awareness of the existence of health information resources, absence of radio/television programmes on diabetes in local languages, absence of medical and public libraries, slow adoption of information technology, lack of computer operation skills, and inaccessibility of health information resources are the challenges of utilization of health information resources by diabetic patients in Benue State. This finding corroborate with that of Naidoo (2012) who revealed that, the patients found it difficult to understand the sources of health information available and that patients do not know where to find health information other than that provided by health professionals. The finding also corroborates with that Nwagwu and Ajama (2011) who reported that long distance to health centers and exorbitant fees charge by hospitals discourage the rural women use of modern health information from health professionals and lack of health

information system in the rural area posed challenge to access and utilization of health information. Also in corroboration with this finding is that of Kalantzi, Kotagiolas, Kechagias, Niakas and Makrilakis (2015) who identified lack of time, lack of computer infrastructure, lack of computer literacy, psychological issues and problems in doctor-patient relationship as obstacles to diabetes related information utilization. Similarly, Angya (2012) identified absence of medical/public libraries, absence of radio/television programmes in local languages, inexplicit nature of health information resources, absence of HIV/AIDS data/information exchange network and ineffective communication strategies as barriers to access and utilization of health information. This finding as observed implied that a plethora of challenges affect the utilization of health information resources among diabetic patients in Benue State.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

This section presents the summary of the study, conclusion, recommendations, limitations of the study and suggestions for further studies.

5.1 Summary

The study assessed the utilization of health information resources by diabetic patients in Benue State Nigeria. Five objectives with corresponding research questions guided the study. The variables for the study were limited to: types of health information resources required by diabetic patients, sources of accessing health information by diabetic patients, health information resources utilized by diabetic patients, extent of utilization of health information resources and the challenges of utilization of health information resources by diabetic patients in Benue state.

Literature was reviewed under theoretical framework, conceptual framework and review of related empirical studies. Information Utilization Model by Lenz 1984 was reviewed as the theoretical framework for the study. Concepts such as Diabetes, Health Information Resources required, Sources of Accessing Health Information Resources, Extent of Utilization Health Information Resources, and Challenges of Utilization of Health Information Resources were reviewed. Under the empirical review, works of other researchers related to the present study were reviewed to give the study a guide.

The study adopted a descriptive research design and was carried out in Benue State, Nigeria. The population of the study comprised of all the one thousand six hundred and ninety-eight (1,698) registered diabetic patients in 2017 and 2018 as at the time of the research at Federal Medical Center, (FMC) Makurdi, Benue State University Teaching Hospital (BSUTH), General Hospital Katsina-Ala and General Hospital Otukpo. A sample size of 324 diabetic patients in the

registered hospitals under study was drawn from the population of the study using Taro Yamen formula for sample size determination. Proportionate stratified random sampling technique was used to stratify the sample size of 324 diabetic patients in to four strata based on population, where FCM have 130, BSUTH have 97, General Hospital Katsina-Ala have 65 and General Hospital Otukpo have 32. The instrument for data collection was a structured questionnaire titled "Assessment of Utilization of Health Information Resources by Diabetic Patients Questionnaire" (AUHIRDPBSQ). The questionnaire was divided into five sections; A, B, C, D and E. The instrument was validated by three experts. The reliability of the instrument was calculated using Cronbach Alpha method and a reliability coefficient of 0.83 was obtained. The data collected were analyzed using Frequency Counts, Percentages, Means and Standard Deviation to answer the research questions.

Findings of the study revealed that; health information resources such as medical newspapers, medical magazines, medical brochures, treatment fact sheet, medical newsletters, medical posters, medical bill boards, medical leaflets, medical pamphlets, medical tapes, medical videos, medical cassettes, medicos, medical e-journals, medical e-books, Medline plus, medical films, microforms, clinicaltrials.gov, and medical dictionaries are required by diabetic patients in Benue State. The finding also revealed that; medical practitioners, nurses, other health workers, other diabetic patients, television programs and radio programs are the sources of accessing health information by diabetic patient in Benue State. Further, the findings revealed that, health information resources such as treatment fact sheet, medical posters, medical bill boards, medical leaflets and medical videos are utilized to a low extent by the diabetic patients. Lack of health information resources, difficulties in understanding the available health information resources, lack of applicability of health information resources, distance to health information sources,

absence of diabetes data and absence of diabetes information network among others are the challenges of utilization of health information resources by diabetic patients in Benue state

5.2 Conclusion

Based on the findings of the study, the researcher concluded that information is a vital tool for the wellbeing of diabetic patients in Benue State. Hence diabetic patients just like any other category of human beings have different health information needs regarding the treatment and management of their diseases and access a plethora of information sources to address such health information needs. There are however, a plethora of challenges that affect their utilization of health information resources which needs to be surmounted.

5.3 Recommendations

Based on the findings, it was recommended that

1. Hospital libraries through their collection development policies should acquire and provide relevant health information resources in local languages for diabetic patients that can cater for health needs
2. Hospital libraries should endeavor to provide user education programmes for diabetic patients that can acquaint them with knowledge on how to use hospital library resources and services to address their health information needs.
3. Librarians in hospital should consider playing Videos/ DVD records on diabetes management techniques and appropriate diets in patient's waiting room such that patients who are less inclined to talk to the other patients or to read the pamphlets at the hospital, will receive some information on diabetes in another format.

4. In view of the reported lack of adequate medical libraries, hospital should consider establishment of medical libraries a top priority as it can serve both hospital patients and health providers.
5. Librarians in hospital libraries should embark on awareness creation of diabetic related information resources that are available in their libraries to the public through channels like posters, local conferences and town meetings. This can improve the awareness of diabetic patients on the available information resources that they can use to meet their health information needs.
6. Television production companies should consider introducing diabetic fictional characters in their drama series particularly in local languages This idea of incorporating social issues in local drama series has been successfully accomplished with regard to HIV/AIDS awareness and same will be achieved for diabetes

5.4 Limitations of the Study

In the course of the research work, the researcher encountered limitations that limited the scope of this work.

1. The major limitation of this study lies in the sample. The sample size for the study was not large enough to permit meaningful generalizations of the findings as only few Hospitals were covered for the study. Hence, the sample size, although large for the purpose of this study, cannot be assumed to be a true representation of the population of all diabetic patients in Benue State.
2. Another limitation of the study is that, the study was undertaken in major hospitals in Benue State and thus the participants, the majority of whom resided in an urban area, might not be representative of the general diabetic population in other parts of the state.

Hence, those that did not participate (participants that do not live in towns) might represent a specific group of people with no interest in information and knowledge about the disease and thus may have introduced a bias in the study.

3. Lastly, the study conducted only focused on public hospitals. However, non inclusion of private hospitals some of which are also well equipped with information resources on treatment of diabetes affects the generalization of the findings of the study

5.5 Suggestion for Further Studies

Due to the limitation of this study, the researcher suggests that further research should be conducted on:

1. Accessibility and Utilization of health information resources by diabetic patients in private hospitals in Benue State
2. Information needs and seeking behavior of diabetic patients in rural hospitals in Benue State, Nigeria
3. Satisfaction of diabetic patients with information resources provision on diabetic mellitus in hospitals in Benue State
4. Similar study can be replicated in other states of the federation

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APPENDIX A

Department of Educational Foundations and General Studies,

University of Agriculture, Makurdi

20th June, 2018.

Dear Respondents,

I am a postgraduate student of the above department undertaking a research study on **"Assessment of Utilization of Health Information Resources by Diabetic Patients in Benue state".** This questionnaire has been constructed as an instrument to aid the researcher obtains the require data for the study.

Kindly fill the questionnaire and return it. The information supplied will be used for academic purposes only.

Thank you.

Yours sincerely,

TONDO Richard Iorver

16/10241/MLIS

Researcher

APPENDIX B

Assessment of Utilization of Health Information Resources by Diabetic Patients in Benue state Questionnaire (AUHIRDBSQ)

INSTRUCTION: Indicate by ticking (√)

SECTION A: Types of Health Information Resources require by Diabetic patients.

What are the types of health information resources you require?

S/No	Items	Required	Not Required
1	Medical Books		
2	Medical journals		
3	Medical Newspapers		
4	Medical Magazines		
5	Medical Brochures		
6	Treatment fact sheet		
7	Medical Newsletters		
8	Medical Posters		
9	Medical Bill boards		
10	Medical Leaflets		
11	Medical Pamphlets		
12	Medical Tapes		
13	Medical Videos		
14	Medical Cassettes		
15	Medicos		
16	Medical e-journals		
17	Medical e-books		
18	Medlineplus		
19	Medical Films		
20	Microforms		
21	ClinicalTrials.gov		
22	Medical Dictionaries		

SECTION B: Sources of Accessing Health Information by Diabetic Patients

What are the sources of accessing health information available to you?

S/No	Items	Yes	No
23	Medical Practitioners		
24	Nurses		
25	Other health workers		
26	Charity or support organizations		
27	Family members		
28	Friends		
29	Co-workers		
30	Other diabetic patients		
31	Television programmes		
32	Radio programmes		
33	Library		
34	Internet		
35	Social Networks		
36	Church		
37	Peer groups		
38	Seminars/workshops		
39	Public lectures		

SECTION C: Health Information Resources used by Diabetic Patients

What are the available health information resources you utilized?

S/No	Items	Utilized	Not Utilized
40	Medical Books		
41	Medical journals		
42	Medical Newspapers		
43	Medical Magazines		
44	Medical Brochures		
45	Treatment fact sheet		
46	Medical Newsletters		
47	Medical Posters		
48	Medical Bill boards		
49	Medical Leaflets		
50	Medical Pamphlets		
51	Medical Tapes		
52	Medical Videos		
53	Medical Cassettes		
54	Medicos		
55	Medical e-journals		
56	Medical e-books		
57	Medlineplus		
58	Medical Films		
69	Microforms		
60	ClinicalTrials.gov		
61	Medical Dictionaries		

SECTION D: Extent of Utilization of Health Information Resources by Diabetic Patients

To what extent do you utilize health information health information resources?

S/No	Items	VHE	HE	LE	VLE
62	Medical Books				
63	Medical journals				
64	Medical Newspapers				
65	Medical Magazines				
66	Medical Brochures				
67	Treatment fact sheet				
68	Medical Newsletters				
69	Medical Posters				
70	Medical Bill boards				
71	Medical Leaflets				
72	Medical Pamphlets				
73	Medical Tapes				
74	Medical Videos				
75	Medical Cassettes				
76	Medicos				
77	Medical e-journals				
78	Medical e-books				
79	Medlineplus				
80	Medical Films				
81	Microforms				
82	ClinicalTrials.gov				
83	Medical Dictionaries				

KEY: VHE=Very High Extent, HE=High Extent, LE=Low Extent, VLE=Very Low Extent

SECTION E: Challenges of Utilization of Health Information Resources by Diabetic Patients

What are the challenges you encountered in the course of utilizing health information?

S/No	Items	SA	A	D	SD
84	Lack of health information resources				
85	Difficulties in understanding the available health information resources				
86	Lack of applicability of health information resources				
87	Distance to health information sources				
88	Absence of diabetes data				
89	Absence of diabetes information network				
90	Ineffective communication strategies				
91	Poor health information literacy				
92	Lack of awareness of the existence of health information resources				
93	Poor Internet connectivity				
94	Absence of radio/television programmes on diabetes in local languages				
95	Absence of medical and public libraries				
96	Slow adoption of Information Technology				
97	Lack of computer operation skills				
98	Inaccessibility of health information resources				

KEY: SA=Strongly Agree; A=Agree; D=Disagree, SD= Strongly Agree

APPENDIX C

Calculation of sample size using Taro Yemen Formula

$$n = \frac{N}{1 + N\ (E)^2}$$

Where n = the sample size required

N = the population size

E = level of significance

N = 1,698

E = 95% (0.05)

$$n = \frac{1,698}{1+1,698(0.05)^2}$$

$$n = \frac{1,698}{1+1,698(0.0025)}$$

$$n = \frac{1,698}{5.245}$$

n= 323.73689228

Therefore, n = 324

APPENDIX D

Proportionate Stratified Random Sampling

Sample size = 324

Ratio = 4; 3:2:1 = 10

FMC $= \frac{4}{10}$ x 324 =130

BSUTH $= \frac{3}{10}$ x324 =97

General hospital Katsina-ala $= \frac{2}{10}$ x 324 = 65

General hospital Otukpo $= \frac{1}{10}$ x324 = 32

$\therefore$ 130+97+65+32 = 324

APPENDIX E

RELIABILITY ESTIMATES

Scale: SECTION A

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded[a]	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.780	.771	22

Scale: SECTION B

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded[a]	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.811	.810	17

Scale: SECTION C

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded[a]	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.802	.791	22

Scale: SECTION D

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded[a]	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.853	.815	22

Item Statistics

	Mean	Std. Deviation	N
Q62	3.5192	.41967	45
Q63	3.3415	.47839	45
Q64	3.2308	.40349	45
Q65	3.7831	.51383	45
Q66	3.3183	.52743	45
Q67	3.3567	.59781	45
Q68	3.5634	.41378	45
Q69	3.7802	.59692	45
Q70	3.5078	.44490	45
Q71	3.5467	.54220	45
Q72	3.0012	.40982	45
Q73	3.9012	.49023	45
Q74	3.8012	.43561	45
Q75	3.7831	.51383	45
Q76	3.3183	.52743	45
Q77	3.3567	.59781	45
Q78	3.5634	.41378	45
Q79	3.7802	.59692	45
Q80	3.5078	.44490	45
Q81	3.5467	.54220	45
Q82	3.0012	.40982	45
Q83	3.8012	.43561	45

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.673	3.182	3.925	.672	1.227	.074	22
Item Variances	.258	.126	.344	.238	3.155	.018	22

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
18.1253	1.586	1.25345	22

Scale: SECTION E

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded[a]	0	.0
	Total	45	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.780	.780	15

Item Statistics

	Mean	Std. Deviation	N
Q84	3.8846	.32581	45
Q85	3.5385	.50839	45
Q86	3.4231	.50383	45
Q87	3.4615	.50839	45
Q88	3.5385	.50839	45
Q89	3.5674	.48765	45
Q90	3.8724	.54763	45
Q91	3,9085	.56433	45
Q92	3.4231	.45211	45
Q93	3.5678	.54531	45
Q94	3.4563	.46823	45
Q95	3.5621	.47123	45
Q96	3.7891	.53213	45
Q97	3.1243	.43243	45
Q98	3.4122	.46812	45

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.496	3.346	3.769	.423	1.126	.024	15
Item Variances	.256	.235	.345	.109	1.464	.001	15

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
31.4615	4.858	2.42043	15

Scale: Grand Reliability

Case Processing Summary

		N	%
Cases	Valid	45	100.0
	Excluded[a]	0	.0
	Total	45	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.875	.874	98

APPENDIX F

BREAKDOWN OF TOTAL POPULATION OF REGISTERED DIABETIC PATIENTS IN EACH HOSPITAL

S/N	Name of Hospitals	Number of Registered Diabetic patients
1	General Hospital Katsina-Ala	272
2	Benue State University Teaching Hospital Makurdi	698
3	Federal Medical Center Makurdi	491
4	General Hospital Otukpo	237
	Grand Total	**1,698**

APPENDIX E

OUTPUT OF ANALYSIS

RESEARCH QUESTION ONE

Frequency Table

Item 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	298	91.9	91.9	91.9
	NR	26	8.1	8.1	8.1
	Total	324	100.0	100.0	

Item 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	298	91.9	91.9	91.9
	NR	26	8.1	8.1	8.1
	Total	324	100.0	100.0	

Item 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	294	90.7	90.7	90.7
	NR	30	9.3	9.3	9.3
	Total	324	100.0	100.0	

Item 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	297	91.6	91.6	91.6
	NR	27	8.4	8.4	8.4
	Total	324	100.0	100.0	

Item 5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	296	91.6	91.6	91.6
	NR	28	8.6	8.6	8.6
	Total	324	100.0	100.0	

Item 6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	300	92.6	92.6	92.6
	NR	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	299	92.3	92.3	92.3
	NR	25	7.7	7.7	7.7
	Total	324	100.0	100.0	

Item 8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	289	89.2	89.2	89.2
	NR	35	10.8	10.8	10.8
	Total	324	100.0	100.0	

Item 9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	300	92.6	92.6	92.6
	NR	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	299	92.3	92.3	92.3
	NR	25	7.7	7.7	7.7
	Total	324	100.0	100.0	

Item 11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	289	89.2	89.2	89.2
	NR	35	10.8	10.8	10.8
	Total	324	100.0	100.0	

Item 12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	287	88.6	88.6	88.6
	NR	37	11.4	11.4	11.4
	Total	324	100.0	100.0	

Item 13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	300	92.6	92.6	92.6
	NR	24	7.4	7.4	7.4

	Total	324	100.0	100.0	

Item 14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	320	98.8	98.8	98.8
	NR	4	1.2	1.2	1.2
	Total	324	100.0	100.0	

Item 15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	324	100.0	100.0	100.0
	NR	0	0.0	0.0	0.0
	Total	324	100.0	100.0	

Item 16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	290	89.5	89.5	89.5
	NR	34	10.5	10.5	10.5
	Total	324	100.0	100.0	

Item 17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	312	96.3	96.3	96.3
	NR	12	3.7	3.7	3.7
	Total	324	100.0	100.0	

Item 18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	289	89.2	89.2	89.2
	NR	35	10.8	10.8	10.8
	Total	324	100.0	100.0	

Item 19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	287	88.6	88.6	88.6
	NR	37	11.4	11.4	11.4
	Total	324	100.0	100.0	

Item 20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	300	92.6	92.6	92.6
	NR	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	320	98.8	98.8	98.8
	NR	4	1.2	1.2	1.2
	Total	324	100.0	100.0	

Item 22

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R	324	100.0	100.0	100.0
	NR	0	0.0	0.0	0.0
	Total	324	100.0	100.0	

RESEARCH QUESTION TWO

Item 23

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	298	91.9	91.9	91.9
	NO	26	8.1	8.1	8.1
	Total	324	100.0	100.0	

Item 24

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	298	91.9	91.9	91.9
	NO	26	8.1	8.1	8.1
	Total	324	100.0	100.0	

RESEARCH QUESTION TWO

Item 25

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	294	90.7	90.7	90.7
	NO	30	9.3	9.3	9.3
	Total	324	100.0	100.0	

Item 26

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	27	8.4	8.4	8.4
	NO	297	91.6	91.6	91.6
	Total	324	100.0	100.0	

Item 27

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	28	8.6	8.6	8.6
	NO	296	91.4	91.4	91.4
	Total	324	100.0	100.0	

Item 28

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	24	7.4	7.4	7.4
	NO	300	92.6	92.6	92.6
	Total	324	100.0	100.0	

Item 29

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	25	7.7	7.7	7.7
	NO	299	92.3	92.3	92.3
	Total	324	100.0	100.0	

Item 30

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	289	89.2	89.2	89.2
	NO	35	10.8	10.8	10.8
	Total	324	100.0	100.0	

Item 31

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	300	92.6	92.6	92.6
	NO	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 32

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	299	92.3	92.3	92.3
	NO	25	7.7	7.7	7.7
	Total	324	100.0	100.0	

Item 33

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	35	10.8	10.8	10.8
	NO	289	89.2	89.2	89.2
	Total	324	100.0	100.0	

Item 34

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	37	11.4	11.4	11.4
	NO	287	88.6	88.6	88.6
	Total	324	100.0	100.0	

Item 35

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	24	7.4	7.4	7.4
	NO	300	92.6	92.6	92.6
	Total	324	100.0	100.0	

Item 36

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	4	1.2	1.2	1.2
	NO	320	98.8	98.8	98.8
	Total	372	100.0	100.0	

Item 37

		Frequency	Percent	Valid Percent	Cumulative Percent
	YES	00	0.0	0.0	0.0
Valid	NO	324	100.0	100.0	100.0
	Total	372	100.0	100.0	

Item 38

		Frequency	Percent	Valid Percent	Cumulative Percent
	YES	34	10.5	10.5	10.5
Valid	NO	290	89.5	89.5	89.5
	Total	324	100.0	100.0	

Item 39

		Frequency	Percent	Valid Percent	Cumulative Percent
	YES	12	3.7	3.7	3.7
Valid	NO	312	96.3	96.3	96.3
	Total	324	100.0	100.0	

RESEARCH QUESTION THREE

Item 40

		Frequency	Percent	Valid Percent	Cumulative Percent
	U	36	11.1	11.1	11.1
Valid	NU	288	88.9	88.9	88.9
	Total	324	100.0	100.0	

Item 41

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	26	8.1	8.1	8.1
	NU	298	91.9	91.9	91.9
	Total	324	100.0	100.0	

Item 42

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	30	9.3	9.3	9.3
	NU	294	90.7	90.7	90.7
	Total	324	100.0	100.0	

Item 43

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	27	8.4	8.4	8.4
	NU	297	91.6	91.6	91.6
	Total	324	100.0	100.0	

Item 44

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	28	8.6	8.6	8.6
	NU	296	91.4	91.4	91.4
	Total	324	100.0	100.0	

Item 45

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	300	92.6	92.6	92.6
	NU	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 46

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	25	7.7	7.7	7.7
	NO	299	92.3	92.3	92.3
	Total	324	100.0	100.0	

Item 47

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	289	89.2	89.2	89.2
	NU	35	10.8	10.8	10.8
	Total	324	100.0	100.0	

Item 48

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	300	92.6	92.6	92.6
	NU	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 49

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	299	92.3	92.3	92.3
	NU	25	7.7	7.7	7.7
	Total	324	100.0	100.0	

Item 50

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	35	10.8	10.8	10.8
	NU	289	89.2	89.2	89.2
	Total	324	100.0	100.0	

Item 51

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	37	11.4	11.4	11.4
	NU	287	88.6	88.6	88.6
	Total	324	100.0	100.0	

Item 52

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	300	92.6	92.6	92.6
	NU	24	7.4	7.4	7.4
	Total	324	100.0	100.0	

Item 53

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	4	1.2	1.2	1.2
	NU	320	98.8	98.8	98.8
	Total	324	100.0	100.0	

Item 54

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	00	0.0	0.0	0.0
	NU	324	100.0	100.0	100.0
	Total	372	100.0	100.0	

Item 55

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	34	10.5	10.5	10.5
	NU	290	89.5	89.5	89.5
	Total	324	100.0	100.0	

Item 56

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	12	3.7	3.7	3.7
	NU	312	96.3	96.3	96.3
	Total	324	100.0	100.0	

Item 57

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	35	10.8	10.8	10.8
	NU	289	89.2	89.2	89.2
	Total	324	100.0	100.0	

Item 58

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	37	11.4	11.4	11.4
	NU	287	88.6	88.6	88.6
	Total	324	100.0	100.0	

Item 59

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	24	7.4	7.4	7.4
	NU	300	92.6	92.6	92.6
	Total	324	100.0	100.0	

Item 60

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	4	1.2	1.2	1.2
	NU	320	98.8	98.8	98.8
	Total	324	100.0	100.0	

Item 61

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U	4	1.2	1.2	1.2
	NU	320	98.8	98.8	98.8
	Total	324	100.0	100.0	